The

North Queensland Naturalist

The Journal and Magazine of the North Queensland Naturalists' Club.

Vol. XVI CAIRNS, 1st SEPTEMBER 1948 No. 88

Bower of the Spotted Bower Bird.

Photo—Elizabeth Kennedy

THE BUILDING OF A BOWER

J. J. SELVAGE, Townsville.

Beneath the pendulous branches of a shrub in the Stuart State School grounds, near Townsville, a pair of Spotted Bower Birds decided to build a bower or play house. The space was cleared of debris and the foundation laid. It consisted of dry sticks about the thickness of a slate pencil and was laid in the form of two crescents, almost meeting at the ends, with the concave portions facing each other. Each crescent was fifteen inches long when measured along the arc and about three inches wide in the middle, tapering towards the end. These crescents were built up to about half an inch in height and by working the sticks in among each other and walking over them a fairly compact mass was formed. The sticks were mostly about a foot in length.

The sides were then commenced. Sticks to fifteen inches in length and of similar thickness to those in the base were used. One end was pushed down among those on the ground and those of one crescent inclined slightly to those on the other crescent. A doorway was left at each end.

As the walls were being erected the birds further strengthened the foundations by twisting and turning more sticks in among those forming the sides until the base was three inches in height and six inches in width at the middle of each crescent. The foundations were very firm and the sides rigid as the upright sticks were packed more closely. The walls had a decided concave curve from top to bottom on the inside. The floor of the inside portion between the crescents was built up but kept with a disc-like hollow inside.

The birds worked for about a month on this bower before decorating, but it was another month before the bower was completed with the decorations, and with fine twigs placed across the top making it form a tunnel. Bleached snail shells, bones, pieces of coloured china and glass, pebbles and bottle stoppers were heaped inside and at the entrance. Every morning fresh green berries and leaves and pods from the acacia trees were added to the decorations about the doorways.

During the whole of the building the two birds were chattering to and scolding each other, now and then leaving off work to play, chasing each other through and around the bower, then up through the branches of the overhead shrub. If a stick or an ornament was out of position play would stop until the damage was repaired.

Although but two birds were noticed during the building as many as six have been seen playing together. Of the children attending the school the birds took but little notice; if a stranger should enter the school gate 'cease play' was the cry and off flew the players for a meal in the trees along the creek.

BIRDS OF TOWNSVILLE AND DISTRICT

By H. E. TARR, Melbourne.

(Concluded)

119. Banded Finch, **Steganopleura bichenovii**, B. and C. Very common.
120. Chestnut-breasted Finch, **Donacola castaneothorax**, B. and C. Common.
121. Plum-headed Finch, **Aidemosyne modesta**, B. Seldom recorded.
122. Crimson Finch, **Neochmia phaeton**, B., X. Noted only once, 1944 in this district, but found breeding nearby, 1947.
123. Black-throated Finch, **Poephila cincta**, B., X. Recorded 1943.
124. Olive-backed Oriole, **Oriolus sagittatus**, C. Occasionally.
125. Spangled Drongo, **Chibia bracteata**, B., X. 1944.
126. Australian Crow, **Corvus cecilae**, C. Common. Nesting here.
127. Pied Currawong, **Strepera graculina**, E. Common. Breeding.
128. Pied Butcher Bird, **Cracticus nigrogularis**, B., C. and E. Common. Breeding here.
129. Black-backed Magpie, **Gymnorhina tibicen**, A., B. and C. Common. Breeding here.
130. Little Lorikeet, **Glossopsitta pusilla**, C. Observed once in company with Rainbow Lorikeet in numbers.

THE CROCODILE AT THE NEST

Notes by ST. JOHN ROBINSON, Townsville.

The following notes are contained in letters written by Mr. St. John Robinson at his Sanctuary at Mount Saint John, about four miles north of Townsville. They are of special interest as they concern the nesting habits of the crocodile, **Crocodilus porosus.** The notes explain much of the method in which the nesting is carried out.

13th January 1943. "At the zoo I built a natural pond with a large mound in the centre, and planted grass and trees. In this enclosure I have six large crocodiles. This evening, when I paid a visit to the zoo, I noticed a large nest built, about six feet broad and four feet high. The crocodiles have scratched up all the leaves and grass and tops of overhanging branches and placed them in a heap on the mound. This crocodile's nest has been built during the night, and it looks as if she is going to lay her eggs. This is the first instance to my knowledge of breeding in captivity. It will be interesting to watch."

22nd January, 1943. "On Friday night (14th) the caretaker went into the zoo and he put the torch on the nest and noted the crocodile had a heap of grass in her mouth, placing it on the nest. On Saturday night the 15th, she completed her task of building, and by near observations, appears to have laid her eggs. I cannot say definitely if she has done so, but she remains constantly near her nest. There are six crocodiles in the enclosure. Further notes will be given when I get a boat to cross."

29th January, 1943. "When visiting my zoo this afternoon I noticed that the crocodile had been working last night on her nest. The addition was clearly noticed by her building of a large heap of grass high above the nest on the side. I also noticed that she had made a depression in the centre of the nest as though she intends laying her eggs therein to-night. She has the hole made in the centre and the grass in readiness as though to cover the eggs. It is interesting to watch the progress of the nest and I am sure that when I visit the zoo tomorrow the eggs will have been laid and the nest straightened up. The nest is about four feet in the water, and she constantly lies near it, so I shall have to get a boat to cross."

31st January, 1943. "Visiting the zoo this evening I find that she had covered the nest and built on to it. I am sure that she had laid either Friday night (29th) or last night, by the appearance of the heap of debris which she has placed on top. I intend during the week to bring a boat out, perhaps on Sunday next (7th February), and inspect the nest across thirty feet of water, although the crocodile is always lying there between the bank and the nest."

Early February, 1943. "I have definitely fixed next Sunday, 7th February, to look at the nest and examine it. I might mention that there is a large crocodile between the nest and where the boat will be launched. It is very savage and remains there under water. If anything is thrown into the water he immediately jumps right out of the water at the splash. Being half civilised I expect him to attack the boat but that will not prevent me getting over to investigate. This act should be worth filming as one will be able to get facts."

7th February, 1943. "The robbing of the crocodile's nest at my zoo was accomplished by crossing to the nest in a boat after driving her back with a long stick to the other end of the nest. When I was taking the debris away from the nest she charged at me with open mouth and drove me into the boat. One second later and I would have been in her jaws. She came right out of the water and on to the nest, in clear view of the crowd looking on, and only for my having a long stick to jab into her mouth I believe she would have come into the boat. I drove her back into the water and with my son and a Kodak movie man went back. We pulled off further debris and grass and then came to the eggs. After counting them—78 in all—pictures were taken and the grass put back on to the nest. Thus ended the robbery of a captive crocodile's nest."

This completes the record for the 1943 season. Whether young croco-

diles were hatched, or whether the nest was deserted after the interference has not been recorded. Probably war-time conditions prevented the keeping of further close observation.

The next observation was made in 1946—one only—but in 1948 a further series of observations successfully completed the breeding record of the crocodile.

9th January, 1946. "Do crocodiles know when the wet season is about to commence? Townsville has been stricken with drought for many months, with no sign of rain. However, last Sunday morning, 6th January, I noticed at my zoo that the crocodiles had started to build their nest in the pond, and they completed it yesterday morning (Tuesday). Monday night it commenced to rain; two inches fell on Tuesday, and it has been raining ever since. This news was printed in last Monday's Brisbane "Courier." The paper expressed a wish that the forecast of rain would be correct. Evidently it is a record which should be kept."

"Also, which of the crocodiles builds the nest? I was of the opinion that the female does all the work. However, last morning I visited the zoo and noticed the male crocodile working overtime scratching up grass and leaves around the nest. He would crawl over the nest leaving his tail on same and with his front claws gather all the leaves, push them back to his hind legs, then the hind legs would push them back on to the nest. He took no notice of our watching and a movie picture could easily have been taken. Usually they build at night. I have prepared a nest similar to his in an enclosed pond and intend transferring the eggs to same and then will be able to note the time of incubation."

21st February, 1948. My crocodiles have made their nest on one of the mounds and the female laid her eggs on 2nd February. I have not disturbed the nest, but have wired it off securely so the eggs should hatch. I will build in their enclosure a concrete pool to hold water so they can swim."

10th May, 1948. A telegram reported —"Visited nest thirty minutes ago, three baby crocodiles hatched out, many others breaking through shell."

18th May, 1948. "First I noticed a nest being formed in my large natural pool where I have two males and one female, on 1st February. When the nest was completed a two feet trench was made through the centre; on 3rd February, this trench was filled in, thus I knew she had laid. A few days later I built a strong enclosure around the nest which I watched for hatchings. On 10th May my manager informed me that there were a lot of frogs in the heaped up nest and I immediately went over. Lifting the grass from the nest two young crocodiles were observed crawling there, and several other eggs with the ends broken and little crocodiles with their noses poking out. There were the frogs making all the noise. Thirty came out in two days and others have come out since, and as I have a pool with running water enclosed, and food such as fish, shrimps and chopped-up meat, they are all doing very well. I estimate during the week they have grown two inches, and I will continue to watch their growth. They are a very lively lot and can remain under the water for long periods."

THE MANGROVE WARBLER.

NANCY HOPKINS, Townsville

During the Townsville Naturalists' Club's recent Field Day at Kissing Point Mrs. Kennedy located for me a bird she had been watching on a tidal stream near her home, and sometimes in her garden, which she believed to be a Mangrove Warbler, **Gerygone cantator.** We located the pair far out in the middle of the mangroves, maintaining a regular traffic to and from a certain point. I suspected that young birds were being fed, and, on wading in and stalking closely, I discovered a family group of four or five in all and saw the parents carrying tiny caterpillars to the fully fledged youngsters.

I had seen and heard the bird on previous occasions near mangroves and creeks, but never so perfectly,

CARVED BOOMERANGS FROM NORTH QUEENSLAND

KEITH KENNEDY

President, Townsville and District Naturalists' Club. Past President Anthropological Society of N.S.W.

In parts of Queensland and New South Wales boomerangs incised with ornamental designs are occasionally found. The accompanying illustration shows two such weapons which I obtained in Townsville. Both are obviously old, and are of the non-returnable kind.

Fig. 1 measures around the convex curve 80 cm.; from apex to apex 74 cm.; width across centre 7 cm.; weight 1 lb. 5½ ozs. The two surfaces are as usual, plane and convex, and the latter surface alone is ornamented. This ornamentation consists of incised designs of two rows of elongated ovals, seven in both rows; seven half ovals festooned on the convex margin, and the same number on the concave margin. The ovals are incised with longitudinal grooves, and the half ovals on the margins are incised with oblique grooves.

Fig. 2 is slightly smaller. It measures 78 cm. around the convex curve and 72.5 cm. from apex to apex. Width across the centre is 6.25 cm., and weight 1 lb. 4 ozs. The designs are similar in shape and number to Fig. 1, except that the grooves on the marginal half ovals are not so oblique, but are almost parallel to the edges.

The ornamentation on these two specimens seems to be typical of North Queensland, but whether it originated on the coast or inland is yet to be decided. Roth, in his North Queensland Ethnological Notes does not mention them but he does in his work on North West Central Queensland, where he says that the festoons on the edges are only found on implements made in and to the south of the Boulia district (1). He figures examples with both mucronate and obtuse apices. Lumholz figures an incised boomerang decorated with festoons and elongated ovals from Coomooboolaroo, Central Queensland, and adds a footnote "On the Herbert River I never saw boomerangs ornamented with engraved lines like those further south and west in Queensland" (2).

In a paper read before the Linnean Society of New South Wales, R. Etheridge, Jun., described two specimens supplied by Mr. J. A. Boyd of Ripple

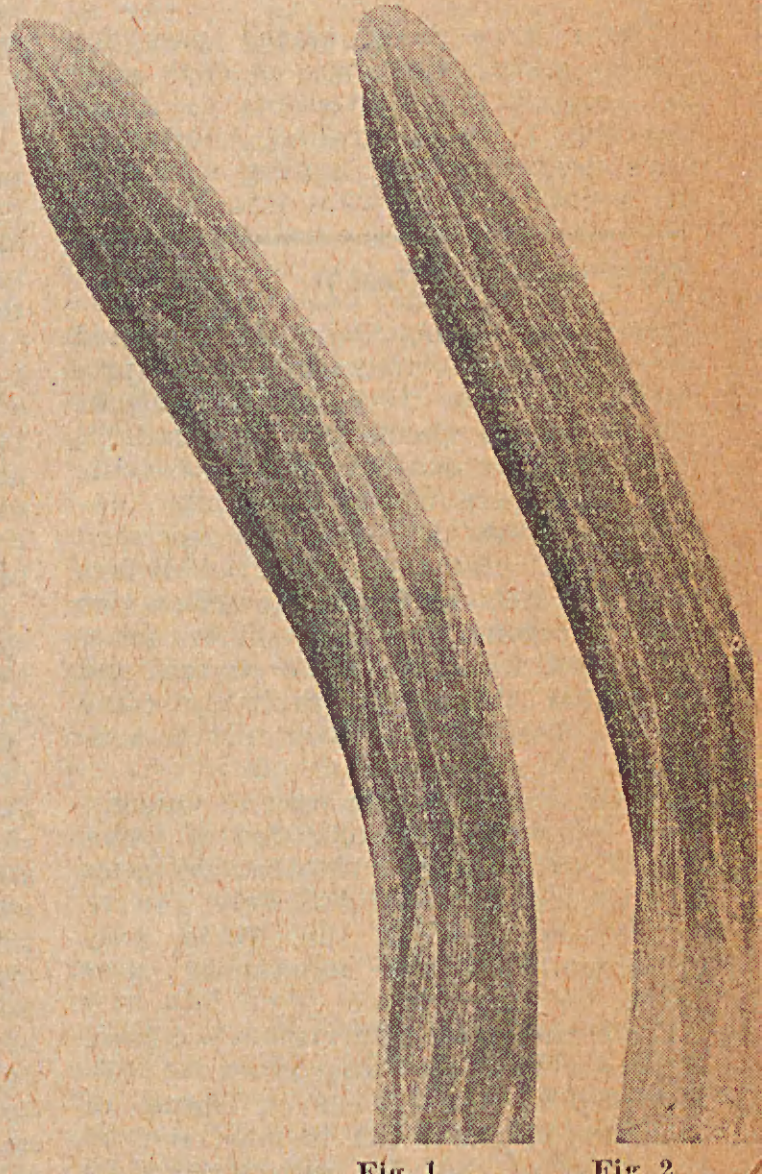

Fig. 1 Fig. 2

Photo—K. Kennedy

MANGROVE WARBLER (Contd.)

and I had not identified it, largely owing to the fact that it is listed in both Leach's and Cayley's books as from South East Queensland, while an article by K. A. Hindwood in The Emu, vol. 45, page 311, suggests that it is not found north of Mackay. We are convinced, however, that the bird observed by us is the Mangrove Warbler, as all details of appearance, song, and habits seem to agree with published data.

SPIDERS' WEBS AND THEIR USES IN PRECISION INSTRUMENTS

H. O. BARKUS, Cairns.

The Spider said as he spun and spun. -
"I've made this web since the World
begun,
But science will someday find a use
And the purpose won't be too obtuse.
A single web shall be conceded
For instruments to be most needed.
Vast distances will be aligned
My ugly body then not maligned."

There have been varied uses for spiders webs. Surgeons of days gone by used them in attempts to arrest bleeding. Our Australian Aboriginals have used them for baiting fish, rolling a collection of webs into balls the size of a golf ball and attaching them to lines made of fibres. The fish got his jaws glued to this luscious looking object and so was caught. The bait was retrieved if loosened, being of some real value. In instruments of observation such as theodolites and telescopes, their use is of paramount importance. In this article spiders webs are discussed in relation to observation instruments.

In the study of surveying and astronomical observation, the first known date was 1400 B.C. Mention is made of the use of a sighting stick similar to our present mapping alidade where the means of sighting was the human hair or a strand from the silkworm. Evidently some need for finer means of measurement was required, for in 140 B.C. the Chinese had dropped the idea of the silkworm and used spiders webs instead. However. it seems that the webs used were too thick and so human hair was reverted to.

Much later, in 1570 A.D., during the advancement of measuring observations, it was discovered that certain spiders, at seasonal times, spun webs of various thicknesses. By experiment, depending on the condition of the eyes of the observer, some standards were reached which were used in 1700 A.D. when scientists were experimenting with the achromatic telescope. About this time surveyors began to reach out for finer standards and during the beginning of the 19th century some semblance of the present theodolite started to evolve. Spiders webs ther appeared to come into their own as a means of measuring observations, but the webs being then obtained were not of uniform thickness through their length and the then instrument makers found that only certain spiders spun webs suitable for their requirements and those had to be gathered in the early morning hours. and then only from certain districts. At that time several families were employed in this work, one family going to the South of France every year during the spring to gather them from grape vines and rose trees. In the late spring they were garnered from the pine trees. Forked pieces of wood were cut from

CARVED BOOMERANGS (Contd.)

Creek near Ingham, who also supplied the information that they were procured from the Herbert River blacks who obtained them from the natives living further south near Townsville (3). Both are of almost similar design to the implements described above. In another paper read before the same Society (4) he describes two smaller boomerangs with similar ornamentation from the same source, and adds that these also probably came from the neighbourhood of Townsville.

In the south-eastern part of Queensland ornamentation consisted of loops, half loops, zig-zags and other patterns, and the apices were definitely mucronate ; whereas in the North only occasionally is the mucronate apex found.

From the scant information we have it seems that the aborigines of the Townsville district carved some of their boomerangs, but it must not be lost sight of that the carved boomerangs might have been traded from the West.

References

(1) Roth, W. E. "Ethnological Studies of N.W. Central Queensland Aborigines." Brisbane 1897. p. 144: pl. XIX.
(2) Lumholz, C. "Among Cannibals." London 1889. p. 51.
(3) Etheridge, R., Junr. "Two Ornate Boomerangs from North Queensland." Proc. Linn. Soc. N.S.W., 1897 : part 2: July 28.
(4) Etheridge, R., Junr. "Further Carved Boomerangs from North Queensland." Proc. Linn. Soc. N.S.W., 1898: part 4: Nov. 30.

the trees, peeled and dried, and whilst the dew was on the webs, they were wound in a cross fashion until the fork was full. It was then put to one side to dry, sheltered from dust. Mention of the family doing this work was quoted in the Wide World Magazine in one of the issues of 1904 and in two months time another family was reported as being in the same industry. Towards the end of the 19th century when optical systems of telescopes were being improved, the use of spiders webs was of a wider scope. Then it was found that the webs being used previously were too thick, and naturalists were being included in exploratory parties, in the hopes of finding webs suitable for finer measurements. As the optical systems of eyelenses of telescopes were increased in magnification, even finer webs could be used until a stage was reached where fractions of seconds of arc were readable.

The technique of gathering webs from trees was slow. Experience found that a spider kept in confinement for two or three days began to spin a web immediately on being released. The spider was placed on a frame about 8" x 4", the frame given a slight knock to dislodge the spider, and the spider, feeling it was going to fall, immediately fixed a web to the frame and when falling the web was drawn out of its spinnerets. The operator wound up the web keeping the spider from falling to the ground. According to the dexterity of the operator a large number of frames were able to be wound from the one spider. This method has been improved upon. The spider after being caught is kept in a box for a day then placed in a bowl.

On placing a stick against the spinnerets, the spider fixes the web on to the stick and then the web can be pulled, fastened to a frame, as previously, and so wound as in the former instance. This procedure is repeated until the required number of frames are filled. At the beginning of the operation yards of web are often pulled out before it becomes clear and fine. A spider, to produce good clean webs, has to be treated gently and the operator must go about his work quietly. The spider can be "difficult," and then the web produced is flat. This is caused by the spinnerets being contracted together until they form a narrow slit. From **Argiope aetherea,** a species commonly known as the St. Andrew's Cross Spider, so named because the stabilimentum in the centre of its web is invariably in the form of a St. Andrew's Cross, as much as 1,000 yds. can be pulled and even then its sac is not fully depleted. The keeping of spiders in captivity is quite simple. They like a few flies but some kinds can live on a plain thin syrup made of sugar and water. The syrup has to be changed every day.

Web spinning is interesting both from an engineering and scientific view point. The spider senses the direction of the wind, always choosing a gentle one, and pays out an aerial until it fastens on to an object. The webs are spun in a very sticky condition and on touching an object they fasten immediately. The spider knows by a sense of feeling that the web is fastened. Pulling the web tight to a certain tension it then starts to lay another web alongside the first aerial and because of its stickiness they weld together. From this point it places other aerials until it has a base to spin its web upon. Some spiders spin their webs from the centre outwards and others vice versa, spacing of the web being determined by the spacing of the feet as it treads round and round. Other types spin a web of a cloudy mass forming a mat effect between trees, and these, best known as Colony spiders, usually choose citrus trees in which to build. Both male and female live in close proximity. In some varieties, the males are as small as a pin's head, others may be nearly as big as the female, but the female always is larger.

The housewife considers these numerous creatures a menace, but it is generally agreed that they certainly have a place in science, and a most useful and important one at that.

At a later date it is proposed to deal more fully with individual species of spiders and their web characteristics.

Townsville and District Naturalists' Club

President: **K. Kennedy**, Esplanade & Rose St., Kissing Point.
Hon. Secretary: **J. H. Holliday**, P.O. Box 456, Townsville.
The Club meets usually on the first Friday of the month.

MEETINGS

Meetings of the Townsville and District Naturalists' Club were held as usual at the Adult Education Centre Lecture Hall.

At the May meeting the speaker for the evening was Miss Nancy Hopkins who described the habits of the koel, spangled drongo, lotus bird, the stilt and other birds of the Townsville district. She also exhibited the nests of the fig-bird and that of a finch. Exhibits by other members were a stone axe-head from Stuart, two spear-heads from Western Australia and a Chinese brooch made from kingfisher feathers. The following Sunday, members made an expedition to the Townsville Common to study the bird life of the lagoons.

The June meeting of the Club was favoured with a talk by Mr. W. H. Mumford, who told of a crocodile hunt near the mouth of the Haughton River. He gave a vivid description of the preparations and events leading up to the capture of a 15 foot crocodile, which was eventually delivered to Mt. St. John Zoo. By invitation of Mr. J. J. Selvage the June outing of the Club was to Stuart to inspect a bower bird playground or playhouse in the school yard.

For July the lecturer was Mr. J. J. Selvage who spoke on Bird Life of the Stuart Creek district. He listed 112 different species he had observed, and gave descriptions of their habits. It is interesting to know that on rare occasions he has seen emus and plain turkeys (bustards) there. He also told how a flock of ibis successfully dealt with a grasshopper invasion in that locality. For many years he had impressed on the school children of Stuart the necessity of preserving bird life to keep down insect pests, and his efforts in that direction have been very successful. The monthly expedition was to the Black River and in spite of wet weather, field work was carried out. The river was running due to the recent rain, and on the banks two species of wattle were in flower. Birds observed were, black-faced cuckoo-shrike, black-fronted dotterel, red-backed wren, mangrove kingfisher and rainbow lorikeet. A few miles on the Townsville side a very rare bird, the pied heron, was seen.

—KEITH KENNEDY.

NORTH QUEENSLAND NATURALISTS' CLUB

Hon. Secretary: **J. Wyer**, "Lochinvar," 253 Sheridan St., Cairns.
Meets at School of Arts, Shields Street, Cairns, usually on second Tuesday in each month, at 8 p.m.

Annual Meeting, Tuesday, 14th September, 1948.

MEETINGS

8th June, 1948: Lecture by Mr. E. Edward: "Shells and Shell Collecting."

13th July, 1948: Symposium by Section Leaders:—"Natural Features of Kamerunga Island."

10th August, 1948: Adoption of new Constitution and Rules.

NEW MEMBERS ELECTED

8th June: Mr. L. J. Jones, Lolaki Nursery, Port Moresby, Papua; Miss M. O'Rourke, 157 Lake Street, Cairns.

13th July: Mrs. E. Llewellyn, Esplanade, Cairns; Master R. J. McLoughlin, Earlville.

FIELD ACTIVITIES FOR THE QUARTER

Apart from several small expeditions conducted privately by various club members, three official field days have been organised by the North Queensland Naturalists' Club, and to say the least have yielded a wealth of scientific interest in all branches. With the introduction of specialised parties each led by expert Section Leaders field activities are becoming more specific in application and far more productive of results.

To examine the correctness of the report that trout existed in Owens Creek, where they were reported to have been introduced in past years, the Club conducted a survey of that stream in the Myola area, near Kuranda, during May. Although the aquatic life seems quite profuse, no trout were either taken or observed, though fine specimens of several other fish were caught.

The June field day was incorporated in a major operation which club executives have had in mind for some time. An organised natural history survey of Kamerunga Island in the mouth of the Barron Gorge, was undertaken over a period of two days, during which a party of seven members probed every aspect of the island's flora and fauna as well as some of its geo-physical aspects. Further observations are planned for this area, to be conducted seasonally in each quarter.

In July we were honoured to have with us nine members of the Royal Society of South Australia to take part in an outing to Campbell's Creek in the Malbon Thompson Range near Aloomba. This area was selected especially to permit the visitors to see at close range a section of typical rain forest; to observe some of its features, attractive and otherwise. Bird life exists there in profusion, honey-eaters and flycatchers of several species being included in a list of observed kinds of some thirty or more.

—R. B. WILLIAMS.

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Vol. XVI CAIRNS, 1st DECEMBER 1948 No. 89

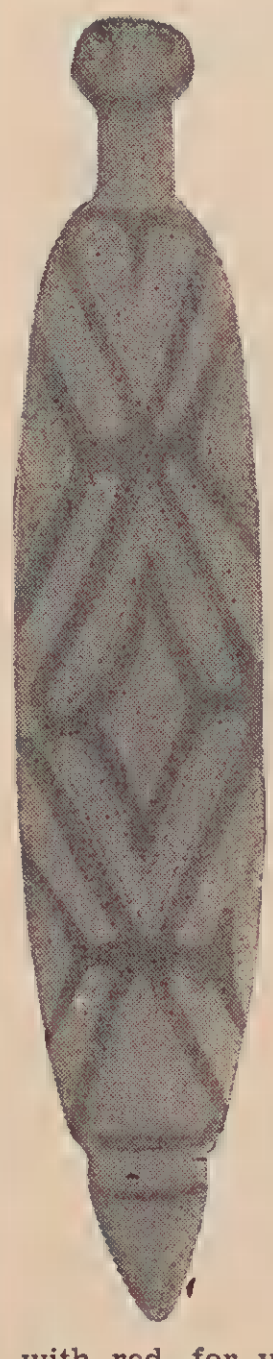
A SPEAR THROWER'S CHARM

By KEITH KENNEDY, Museum of Music, Townsville

Since the human race branched off from its primitive fore-runners, man has used charms to ensure luck in hunting, and accuracy in wielding his weapons, therefore it is not surprising to find such charms amongst the Australian aborigines.

The accompanying illustration (1) depicts what is probably a charm to give the owner accuracy in spear throwing. As far as I know there is only one other such charm in Australian museums, and that is in the National Museum, Melbourne, and is figured in the museum ethnological guide (2). There it is described as a charm called a "**tikovina,**" worn during the fights by the natives on the Herbert River, Queensland. The text further states: "The natives say that in times past, a powerful being named Kohin came to the Herbert River in the form of a carpet snake from the Milky Way, which he said was full of fish. He brought two of these **tikovina** with him and instructed the men how to wear them, which they do by means of a string around the neck, the charm hanging down between the shoulders. It ensures accuracy of aim with the spear, and immunity from injury. It is further said that the head men of the tribe have to eat human flesh every three years, or else they are unable to commune with Kohin. (Presented by John Gagin, Esq.)" (3).

Through the courtesy of the Acting Director of the National Museum, I received the following additional particulars of this **tikovina**: "The charm is made of soft white wood, and is 15¾ inches long, five inches wide at its widest part (about half-way down), and scarcely more than a half inch thick at its centre line. It is double convex, i.e worked to almost a sharp edge all the way round . . . The diamond squares without dots are red (blood); the dotted diamonds are yellowish clay colour with black dots, and the dividing lines are black."



The charm in the Townsville collection figured above measures about 19½ inches in length; 3⅞ inches wide at its widest part; is seven-eighths of an inch thick at its centre line, and is also double convex. At its proximal end is a small handle three inches in length, while two and seven-eighth inches from the distal end are two notches cut in the sides. It is made from the soft light wood of a species of fig (4), similar to that used for the large painted shields of the rain-forest aborigines. On its obverse side, shown in the illustration, the lines of the design are drawn with a black pigment parallelled in parts with dots also black. The space without dots must have originally been filled in with red, for vestiges of the red pigment remain around the inner edges. The spaces with dots show no trace of

red, and might have been once filled in with yellow ochre as on the Melbourne specimen.

There is only one diamond-shaped figure and that is in the centre. The reverse side is unadorned.

Lumholz, who was in the Ingham country in 1882, makes no mention of this kind of charm; neither does Roth in his bulletins of North Queensland ethnography; therefore it must be very rare and probably was only used in a restricted area.

REFERENCES:

(1) KENNEDY, Museum, Townsville.
(2) Guide to the Australian Ethnological Collection in the National Museum, Victoria, by Baldwin Spencer.
(3) Ibid., p. 66.
(4) **Ficus ehretioides** F. Muell.

Some Notes on
THE DISTRIBUTION OF ORCHIDS
Species Common to North Queensland and S.E. Australia

By the Rev. H. M. R. RUPP, Northbridge, N.S.W.

The distribution of Orchids is a fascinating subject, abounding in unsolved problems. For instance, why should a cosmopolitan genus like **Habenaria,** abundant in temperate zones in so many countries, be restricted in Australia to a few species which are exclusively tropical? Again: why are some species abundant in one particular area, never found outside that area? On the highlands of Barrington Tops in New South Wales, the charming little terrestrial **Diuris venosa** occurs literally in myriads, yet up to the present all efforts to find it in similar high country have failed. On the other hand, what is there in the constitution of various other species, such as **Dipodium punctatum** or **Caladenia carnea,** which enables them to flourish under widely differing conditions over such a vast range of habitat?

However, the purpose of this paper is not to probe into the mysteries of questions like these, but merely to enumerate, with comments, the orchid species which are known to be common to the tropics of North Queensland and the more temperate regions of the south-eastern parts of our continent.

1. **Thelymitra aristata** Lindl. Usually known in southern areas as "Scented Sun Orchid." It has a very extensive distribution, occurring in all the Australian States, and also in New Zealand. In Southern Queensland and on the North Coast of New South Wales, it is found in a curious association with the rock-orchid **Dendrobium Kingianum;** as the colours are similar and the flowers are approximately of the same size, the presence of the Thelymitra is often only betrayed by its long, solitary leaf.

2. **Thelymitra pauciflora** R.Br. This also has a wide distribution, being found in all States except Western Australia, and also in New Zealand. It is an extremely variable plant, both in dimensions and in the colour of the flowers, which range from white to pink, purple, blue, and in New Zealand, red. The name is not happily chosen, as in robust specimens the flowers may be quite numerous.

3. **Diuris punctata** Sm. This has been recorded several times from North Queensland, where, however, both the plant and its flowers are relatively small. It extends through Southern Queensland and New South Wales to Victoria and South Australia. It varies considerably in size and colour. Sir J. E. Smith, the author of the species, illustrated it in his "Exotic Botany" in 1804. The plate shows large lilac-purplish flowers heavily spotted all over. By most Australian observers (including the writer) this was regarded as a gross misrepresentation; but in 1946, Mr. A. W. Dockrill discovered numerous specimens at Cambelltown, near Sydney, which agreed precisely with Smith's plate. As Cambelltown was one of the earliest Australian settlements, probably Smith's specimens were obtained there; but this form, though it must be regarded as the type, is evidently extremely rare. The flowers range in colour from white (rare) through varying shades of lilac to deep purplish-red (Stanthorpe); while on the New England plateau near Guyra a form has been found with sulphur-yellow flowers. In its larger forms this is one of the loveliest of all

our terrestrial orchids; the Stanthorpe form is perhaps the most beautiful. In some areas it is scented like the old-fashioned "Flag" **Iris**; in others it is quite scentless.

4. **Microtis unifolia** (Forst.) Reichb.f. Found in all Australian States, in New Zealand, and extending to Asia. A herb with a spike of very small green flowers, common in many areas.

5. **Spiculaea irritabilis** (F. Muell.) Schltr. This is the curious little "Hammer Orchid," so called from the extraordinary structure of the labellum, which is jointed like a human elbow, and terminates in a hammer-like process. It ranges from New Guinea southward to the extreme East of Victoria, where it was recorded once many years ago, but has not been seen since. The leaves are in a small basal rosette, and are often absent at the flowering time.

6. **Caladenia carnea** R.Br. One of the most variable and widely-distributed of our terrestrials. It does not occur in Western Australia, but is common in all the other States, and two or three varieties are found in New Zealand. There are at present eight named varieties. Var. **gigantea** Rog. is said to extend to Java. I have not seen this form from North Queensland, but it is plentiful as far north as Maryborough. My N.Q. specimens came from the neighbourhood of Whitsunday Passage, and they are the type form, practically identical in all respects with the plants so common about the outskirts of Sydney or Melbourne.

7. **Corybas aconitiflorus** Salisb. This quaint little terrestrial was collected by the late E. J. Banfield on Dunk Island, and no doubt occurs on the mainland near by; but like all the members of its genus (usually called Helmet Orchids), it easily escapes notice. It is found in all States except Western Australia, and also in New Zealand.

8. **Pterostylis ophioglossa** R.Br. A variety of this has been found near Proserpine. As it occurs in New Caledonia, it should be looked for further north. It is a characteristic "Greenhood"; but the hood (or galea, as it is called) is very bluntly truncate, and the labellum is acutely forked at the tip. It is common in Southern Queensland and Northern New South Wales, but becomes rare south of the Hunter River.

9. **Pterostylis curta** R.Br. This is one of the very few Greenhoods known to occur in all Australian States. The North Queensland form, which is found on the Atherton Tableland, is very distinctive, and more material might prove the differences between it and the type form to be of specific importance. The species is very common in New South Wales and Victoria; it is easily recognised by its short floral segments and a curious twist of the labellum.

10. **Pterostylis Baptistii** Fitzg. With the possible exception of the New Zealand **P.Banksii**, this species produces the largest individual flowers of all the Greenhoods, though in both cases smaller flowers are not uncommon. Very fine specimens of **P.Baptistii** were recently sent to me from Maryborough, Queensland, by Mr. W. W. Abell. A few years ago Dr. Flecker sent a flower from the Atherton Tableland which seemed to me to be this fine species; but unfortunately it was badly damaged in transit, and the plants accompanying it died out. It occurs in abundance along the coastal belt of Southern Queensland and New South Wales, and has been found in the extreme east of Victoria.

11. **Galeola cassythoides** Reichb.f. A leafless climber, attaching itself to the trunks of trees by sucker-like aerial roots. It reaches a height of from ten to twenty feet, but is often much less. It is covered in springtime with very numerous brown-and-gold flowers. The larger species **G. foliata**, seems to be restricted to Southern Queensland and the far north of New South Wales; it attains a height of over forty feet, and has larger bright golden-yellow flowers.

12. **Liparis habenarina** F. Muell. A herb with small greenish flowers. It has been received from Dunk Island and Proserpine, and from near Byron Bay in New South Wales.

13. **Oberonia Titania** Lindl. A very small epiphyte with long spikes of microscopic greenish flowers. Queensland and Northern New South Wales.

14. **Epipogum roseum** (D. Don) Lindl. A weak saprophyte growing in shady places, with a bent stem carrying dingy white flowers, sometimes tinted with rose. Queensland and Northern New South Wales.

15. **Phajus Tankervilliae** (Banks) Blume. The largest of all our terres-

trials, except perhaps **Galeola foliata.** A noble plant, the flowering stems reaching a height of eight feet. Leaves very large, somewhat like those of an aspidistra. Flowers numerous, large, variable in colour, but in the type form they are white outside, mottled brown inside, with a trumpet-shaped magenta labellum. It is said to occur in many of the islands north of Australia; within the continent it comes as far south as Coff's Harbour in New South Wales, and probably extended further in the early days. Its conspicuous form, the beauty of its large flowers, and the fact that it often grows in comparatively open swampy places, have made it an easy victim of vandals, and great care should be taken to preserve it wherever it grows.

16. **Calanthe veratrifolia** R.Br. Plant somewhat resembling the last, but the leaves relatively broader, and of a duller green. Flowers numerous, pure white at the top of a tall scape, in southern areas blooming about Christmas time. From the tropics southward to the viciniy of Mount Dromedary on the south coast of New South Wales. Usually found in shady places in the rain-forests; thus being less conspicuous than **Phajus** it has not suffered to the same extent from vandalism.

17. **Geodorum pictum** Lindl. Plant somewhat resembling a diminutive **Calanthe.** Though not a showy species, it has a very beautiful veined labellum; and the habit of inflorescence is extremely interesting. At first the flowering spike is erect; but as the buds develop, the axis bends over till the flowers are all "upside down." After fertilization of the capsules, the whole raceme straightens up to the erect position again. It seems probable that fertilisation is effected by the agency of ground insects. The plant extends from the tropics southward as far as Byron Bay.

18. **Dendrobium speciosum** Sm.; the well-known King Orchid or Rock Lily. From the tropics southward as far as Eastern Victoria.

19. **Dendrobium gracilicaule** F. Muell. Common in many coastal areas from the tropics at least as far south as Kiama in New South Wales. Tropical flowers are usually smaller than those of more temperate areas.

20. **Dendrobium aemulum** R.Br. In the tropics, confined to highlands like the Atherton Tableland. Common in Southern Queensland and in many parts of New South Wales as far south as the Clyde River. In the rain-forests it favours the Brush Box (**Tristania**) as a host; but in open forests it is often found on ironbark eucalypts, and is known as the Ironbark Orchid. Though small, it is very attractive. The writer has seen the upper portion of an ironbark eucalypt completely covered with dense masses of the white flowers.

21. **Dendrobium tetragonum** Cunn. Easily recognised by its pendulous quadrangular stems. The flowers of the North Queensland forms of this species are very much larger, and more richly coloured, than those of the south. They often have a curious resemblance to those of the southern terrestrial "Spider Orchid," **Caladenia Patersonii,** and are quite as large. Southern forms usually have rather small, greenish flowers, which however are exquisitely scented. Chiefly in rain-forests, from the tropics to the Illawarra district south of Sydney.

22. **Dendrobium monophyllum** F. Muell. A creeping epiphyte of the rain-forests, from the tropics to the Hastings River in New South Wales. Sometimes called Lily-of-the-valley Orchid, the nodding raceme with its solitary leaf suggesting a resemblance to the well-known garden flower; but the flowers are a dull yellow.

23. **Dendrobium teretifolium** R.Br Common in the coastal belt and adjacent highlands, from the tropics as far south as the Clyde River. In southern areas it often shows a marked preference for the Swamp Oak (**Casuarina glauca**) as a host. It is a very variable species, and four varieties have been considered sufficiently distinct from the type form to be named. The curious, long, cylindrical, pendulous leaves have earned for it the popular name of "Rat's-tail;" but a more complimentary epithet is "Clematis Orchid," from the masses of spidery, white flowers hanging from the pendulous branches.

24. **Dendrobium linguiforme** Sw. Creeping closely to trees or rocks, from the tropics to Mount Dromedary in Southern New South Wales. The northern form has broader leaves and smaller flowers, and is distinguished as var. **Nugentii.** The form of the thick, tough leaves has suggested the name "Tongue Orchid."

25. **Dendrobium Mortii** F. Muell. "Slender Pencil Orchid," from the narrow terete leaves. Flowers very pale green or whitish, usually in pairs. From Proserpine southward to the Clarence River.

26. **Dendrobium Beckleri** F. Muell "Stout Pencil Orchid." From the tropics to the Hunter River. The form from North Queensland is very distinctive, the flowers being racemose, while in the type form, though numerous, they are solitary.

27. **Bulbophyllum crassulifolium** (Cunn.) Rupp. A very small creeping epiphyte with thick succulent leaves and tiny flowers. From the tropics to Southern New South Wales.

28. **Bulbophyllum aurantiacum** F. Muell. Somewhat resembling the last, but larger; flowers often orange-tinted. From the tropics southward to Port Stephens.

29. **Bulbophyllum exiguum** F. Muell. Another small creeper, but with membranous leaves. Flowers racemose, very pale green or cream. The northern form var. **Dallachyi** has larger flowers. From the tropics to Southern New South Wales.

30. **Dipodium punctatum** R.Br. If **D. stenocheilum** be accepted, as I believe it should be, as a variety of **D. punctatum,** this species has a remarkable range of habitat, extending from the Northern Territory to Southern Tasmania. In many areas it is a very beautiful orchid, in spite of being leafless; it is widely known as "Hyacinth Orchid," and the name is not inappropriate, though it often attains far larger dimensions than any hyacinth. The flowers of the type form are bright pink with dark red spots; but this colour-scheme is very variable.

31. **Cymbidium canaliculatum** R.Br. One of the few epiphytes which extend on to the dry western plains, its immense root system penetrating down the hollow trunks of trees for as much as forty feet. It ranges from the North West of Western Australia across round the Gulf of Carpentaria into North Queensland, and thence southward about as far as Forbes, on the edge of the Central Western Slopes of New South Wales. The colour-scheme of the flowers is extraordinarily variable, and a number of varieties and forms have been given distinctive names.

32. **Cymbidium iridifolium** Cunn. This bulky epiphyte is common in many of the coastal forests from North Queensland at least as far south as the Clarence River. It is often found growing in masses of staghorn fern.

33. **Cymbidium suave** R.Br. A far more slender plant than the last, although growing in large clumps. It has a more extensive range, reaching to the south coast of New South Wales. The flowers of the North Queensland form are very pale green; further south they are darker, and often brownish outside. They are delicately perfumed.

34. **Sarcanthus tridentatus** (Lindl.) Rupp. "Tangle Orchid." A small epiphyte of coastal forests, often with very numerous aerial roots. Flowers fragrant, but very small. Extends down to Eastern Victoria.

35. **Sarcochilus olivaceus** Lindl. Small epiphyte with olive-green fragrant flowers. From the tropics to the Clyde River in Southern New South Wales.

36. **Sarcochilus falcatus** R.Br. "Orange-blossom Orchid." Chiefly on the highlands in the tropics. but further south having a wider range. Variable; most forms are very sweetly scented, but some have an objectionable odour. Extends to Eastern Victoria.

37. **Sarcochilus Ceciliae** F. Muell. A small epiphyte or rock orchid with bright pink fragrant flowers, blooming in summer. A form with pure white flowers has been found in Southern Queensland. From the tropics southward to the Clarence River and New England.

SOME OBSERVATIONS MADE OF THE HABITS OF SPIDERS

By H. O. BARKUS

Since my last article introductory to a further study of spiders, I had occasion to search for a spider spinning a web fine enough for optical measuring. During this search I came across a small spider which I found used the air as a means of transport. Looking for a likely spider to take a web from, I saw another spider letting out a web into the wind, which was blowing fairly

gently, and then it cast off. At first I had some doubts that it was adrift and looked for another aerial which was attached to some object which would form the basis for a spun web, and not finding one, decided to follow the web still seen in the air. The spider travelled about sixty feet and during the time it was in the air I noticed that the web had become a good deal longer and the breeze not so strong. Then the spider started to wind in the web, and it floated gently down to the ground and immediately started to construct a web. I had been told that such was a common occurence of a particular spider found in the Cooktown district and was sceptical about the fact, and now I have seen the act myself, knowledge has been gained. The particular spider referred to is found around and on the hibiscus and sometimes on rose trees. Another spider observed is a whitish spider shaped like a crab with claw-like legs. This spider spins two different types of webs, one strongly built and the other a very light affair, no doubt built to catch either a large insect or a smaller one. As a rule, spiders follow a definite plan in the building of their webs, some after laying the radials spin from the outside into the centre and others from the centre outwards. In a short talk I had wtih Mr. Brass of the Archbold Expedition, he told me that they had collected in North Queensland about 200 spiders not previously determined and we are looking with interest to seeing the determinations with descriptions. Spiders are easy to handle provided one is not too slow in movement, in the first place; it has been found that a tumbler is a method easy to use, first place the tumbler over the spider and slide a piece of paper under the tumbler and the spider remains inside the tumbler.

NORTH QUEENSLAND COLEOPTERA AND THEIR FOOD PLANTS.

Part 2.

J. G. BROOKS, B.D.Sc., F.R.E.S.

FOOD PLANT.
Eucalyptus gummifera Gaertn. (Red Bloodwood).

Family BUPRESTIDAE.
Themognatha jansoni Saund.
T. lobicollis Saund.
Castiarina analis Saund.
C. atronotata Waterh.
C. deleta Kerr.
C. triguttata Macl.

Family SCARABAEIDAE.
Clithria eucnemis Burm.
Liparetrus laevatus Macl.
L. parvulus Macl.

Family CANTHARIDAE.
Selenurus apiciniger Lea.
S. luteopictus Fairm.

Family RHIPIDOCERIDAE.
Evaniocera gerstackeri Macl.
Pelecotomoides nigrolineata Lea.

Family LAGRIIDAE.
Synatractus variabilis Macl. var. **impiceus** Pic.
S. variabilis Macl. var. **limbatus** Bm.
S. variabilis Macl. var. **semiruber** Bm.

Family ELATERIDAE.
Melanoxanthus abdominalis Candz.
M. insolitus Cart.
Crepidomenus ignitus Schw.
Anilicus semiflavus Candz.

Family MORDELLIDAE.
Mordella auronotata Lea.
M. dumbrelli Lea.
Tomaxia aterrima Macl.

Family CLERIDAE.
Tenerus tumidicollis Elst.

Family NITIDULIDAE.
Macroura densita Reitt.

FOOD PLANT.
Eucalyptus racemosa Cav. (Narrow-leaved Red Ironbark).

Family BUPRESTIDAE.
Castiarina cinnamomea Macl.

Family CERAMBYCIDAE.
Thoris eburifera White.
Paphora modesta Pasc.

Family CANTHARIDAE.
Selenurus apiciniger Lea.
S. luteopictus Fairm.

FOOD PLANT.
Heteropogon triticeus Domin. (Giant Spear Grass).

Family RHIPIDOCERIDAE.
Rhipidocera mystacina Fabr.

Family RHIPIDOPHORIDAE.
Pelecotomoides marmorata Macl.
FOOD PLANT.
Hibiscus tiliaceus L. (Coast Cottonwood).

Family RHIPIDOPHORIDAE.
Evaniocera gerstackeri Macl.
FOOD PLANT.
Genus **Dendrobium.** (Orchidaceae).

Family CURCULIONIDAE.
Acythopeus aterrimus Waterh.
Blepiarda vittata Pasc.

Family CHRYSOMELIDAE.
Stethopachys formosa Baly.
Nisotra breweri Baly.

Family SCOLYTIDAE.
Xyleborus morigerus Bldfd.
FOOD PLANT.
Agathis Palmerstoni F. Muell. (North Queensland Kauri).

Family CURCULIONIDAE.
Aesiotes leucurus Pasc.
Larvae were taken from a fallen log and bred.
FOOD PLANT.
Acacia Mangium Willd. (A large-leaved Wattle).

Family CHRYSOMELIDAE.
Stethomela fulvicollis Jac.
Paropsis brunnea Marsh.
P. octomaculata Marsh.

Family CURCULIONIDAE.
Chrysolophus spectabilis Fabr.
FOOD PLANT.
Tamarindus indica L.

Family CERAMBYCIDAE.
Platyomopsis humeralis White.
A specimen of this beetle was bred from a dead branch of the tree.
FOOD PLANT.
Alphitonia excelsa Reiss. (Red Almond).

Family BUPRESTIDAE.
Briseis curta Kerr.
FOOD PLANT.
Tristania suaveolens Sm. (Swamp Box).

Family CURCULIONIDAE.
Baryopadus fasciculatus Lea.
Stenocorynus subfasciatus Pasc.
FOOD PLANT.
Bauhinia monandra Kurz.

Family BUPRESTIDAE.
Calodema regalis L. et G.
FOOD PLANT.
Eugenia Kuranda Bail. (Cherry Satinash).

Family TENEBRIONIDAE.
Dipsaconia pyritosa Pasc.
Platydema laticolle Macl.
Ceropria peregrina Pasc.
Uloma westwoodi Pasc.
Promethis nigra Bless.
Toxicum punctipenne Pasc.
Omolipus socius Pasc.

Family CARABIDAE.
Catascopus laticollis Macl.
Scopodes angulicollis Macl.

Family CURCULIONIDAE.
Phaenomerus notatus Pasc.
Euthyrrhinus meditabundas Fabr.

Family BRENTHIDAE.
Cerobates australasiae Fairm.
Ceocephalus exophthalmus Lea.
Caenorychodes diagramma Kleine.

Family PLATYPODIDAE.
Platypus australis Chaud.

Family TROGOSTIDAE.
Pathodermus rufosquamosus Fairm.

Family STAPHYLINDAE.
Metoponcus cyaneipennis Macl.
Priochirus sarmoensis Blkb.

Family COLYDIIDAE.
Nematidium posticum Pasc.
Ocholissa humeralis Fairm.

Family EROTYLIDAE.
Tritoma australasiae Lea.

Family DIPHYLLIDAE.
Althaesia leai Blkb.

Family NITIDULIDAE.
Brachypeplus binotatus Er.
These beetles are not necessarily restricted to this particular tree, but probably would be taken on all trees in the rain-forest. The particular area worked had a number of the trees which were dead or dying as the result of bush fires. The collecting took place both during the wet and dry seasons of the year.

(To be continued).

CORRECTION, PART 1. 1/6/48.

Under River Cherry, **Momadoretus** should read **Mimadoretus.**

Townsville and District Naturalists' Club

President: **K. Kennedy**, Esplanade and Rose St., Kissing Point.
Hon. Secretary: **Elizabeth Kennedy**, P.O. Box 178, Townsville
The Club meets usually on the first Friday of the month.

MEETINGS

Meetings of the Townsville and District Naturalists' Club were held at the Adult Education Centre Lecture Hall.

At the August Meeting a very interesting lecture on Minerals was given by Mr. H. G. Strauss. The lecture was made all the more interesting by the use of a large map which was used by Mr. Strauss to illustrate the different types of minerals in Australia.

The August Field Day was held in the vicinity of Mt. St. John Zoo where bird life was observed by a large number of the members.

The Annual General Meeting of the Townsville and District Naturalists' Club was held on Friday, September 3rd, 1948, and the following officers were elected for the ensuing year. President, Mr. Keith Kennedy; Vice-Presidents, Messrs. Perkin and Strauss; Hon. Secretary, Elizabeth Kennedy; Assistant Secretary, Miss Nancy Hopkins; Members of the Committee, Mrs. Hopkins, Messrs. Black and Brock. Mr. Perkin was appointed to be librarian. The formal business having been completed, Mr. Kennedy exhibited a number of baskets and articles of cloth manufactured by Australian aborigines. He explained the conditions under which they were made and indicated the difference in manufacture by different tribes. Mr. Brock exhibited a beautiful collection of entomological specimens, also some shells and gave a lecture explaining their habits. Mr. Perkin exhibited some lichen and spoke about the two species that grow together. Mr. Popham exhibited a winged seed from New Guinea, and Mr. F. Breuer, a Butterfly Cod or Angel Fish.

The September Field Day was an expedition to Picnic Bay, Magnetic Island. Specimens collected by members included some green tree ants' nests, native flowers and other botanical specimens which were sent to the Barrier Field Naturalists' Club, Broken Hill, New South Wales, holding an Exhibition of Wild Flowers of Australia.

October Meeting. The speaker for the October Meeting was Mr. F. H. Brazier on a recent walking trip he made from Kirima Station to the Tully Gorge. Mr. Brazier made the talk all the more interesting by his extensive use of contour maps and some photos. He described the equipment they took and spoke of the highlights of the trip.

The October Field Day was held at Bluewater, where birds and entomological specimens were observed by one party of naturalists, whilst some members took the track through the bush to the coast to look out for aboriginal middens. None were recorded.

The November Meeting took the form of an exhibition of nature films, illustrated by a sound track, and one in colour, which was a silent film. One film was on Coral, others on:—Strange Shells, Fish, Caterpillars, Sea Urchins, Pollination, Life Story of an Onion, one on Central Australia, Barrier Reef, etc.

The November Field Day being an expedition to 3 Mile where up the Creek Bird and Marine Life were observed.

—ELIZABETH KENNEDY.

NORTH QUEENSLAND NATURALISTS' CLUB

Hon. Secretary: **J. Wyer**, "Lochinvar," 253 Sheridan St., Cairns
Meets at School of Arts, Shields Street, Cairns, usually on second Tuesday in each month, at 8 p.m.

Next Meeting, Tuesday, 14th December, 1948.

MEETINGS

14th September, 1948. Annual General Meeting, Officers elected: President, Mr. J. M. Gray; Vice-Presidents, Mr. J. G. Brooks, Dr. H. Flecker, Mr. A. Read; Hon. Secretary, Mr. J. Wyer; Hon. Treasurer, Mrs. Legge; Additional Members of Council, Messrs. H. S. Sullivan, A. B. Cummings and Courtney; Hon. Auditor, Mrs. J. M. Gray. Section Leaders, Dr. H. Flecker, Librarian and Botanist; G. B. Stephens, Mammalogist; A. Read, Carcinologist; S. E. Stephens, Ornithologist; V. Vlasoff, Ichthyologist; G. McLoughlin, Lepidopterist; J. G. Brooks, Coleopterist.

12th October, 1948. Usual monthly meeting.

9th November, 1948. Lecture by H. Womersley, F.R.E.S., Entomologist to South Australian Museum, "Acarids or Mites—particularly those associated with Scrub Typhus."

NEW MEMBERS ELECTED

14th September, 1948. Mr. E. F. Tree, Fleming St., Edge Hill; Mrs. E. F. Tree, Fleming St., Edge Hill.

12th October, 1948. A. C. Baggott, Machan's Beach; (Junior Member) Miss K. M. Harsant, Box 101, Cairns.

9th November, 1948. Messrs. T. B. Masterson, Millaa Millaa Guest House, Cairns; T. J. O'Cavanagh, Mt. Peter, via Edmonton.

The

North Queensland Naturalist

The Journal and Magazine of the North Queensland Naturalists' Club.

Vol. XVI CAIRNS, 1st MARCH 1949 No. 90

CANOES OF MANUS ISLAND, ADMIRALTY GROUP

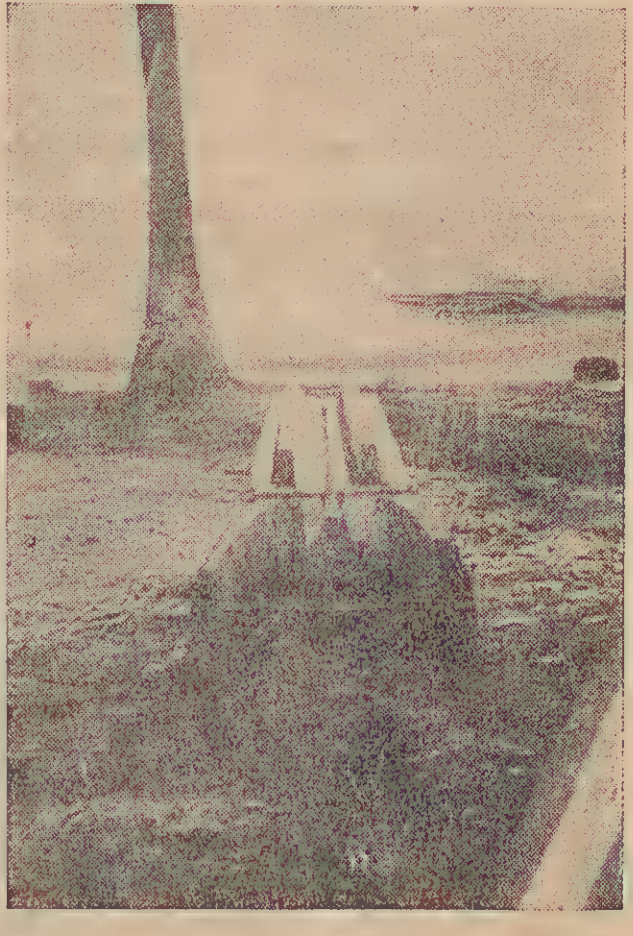
By MAURICE F. LEASK, Ballarat.

The natives inhabiting the main island of MANUS and adjacent islets of the ADMIRALTY GROUP are renowned as skilled builders and as expert sailors of their unique outrigger canoes.

On PITYILU ISLAND in the north-centre of the ADMIRALTIES, a magnificent canoe has been completed quite recently from a huge log obtained in the MALAI BAY area, at a distance approaching fifty miles away to the south-west.

The green log was hollowed out.
Photo by R. Sheridan.

The green log was hollowed out by cutting and chipping with hatchets and improvised adzes—in these days steel tools are used, some of the adzes being mounted plane blades.



Two "porets" were shaped separately.
Photo by R. Sheridan.

Two "porets," bow and stern, were shaped separately. These had to be fitted to the ends of the hull and fastened with "kasta," a native putty made by grating the kernel of a nut. Kasta nuts are as large as a goose's eggs, and are found under their tall trees in the jungle.

Later, a solid piece of wood was hewn out, approximating to the shape of a "kanu" (canoe) hull and attached to spars usually numbering four. The illustration shows how these spars ride above the water by their being lashed to "limbongs" (betel-nut strips) hammered into this outrigger.

Canoes around MANUS carry one, two or three sails; emergency power is supplied by paddles of which there are as many as ten in the largest craft. However, the method of using the paddles is unique, for the crew row with them, fastening the shafts in rowlocks of "kanda" (lawyer-cane).

When the canoe is travelling by sail or paddle the man on the "sitea" holds an important post. Perched in the extreme stern, he manipulates a one-piece, long-bladed paddle by prizing it against the side of the vessel.

He manipulates a long-bladed paddle.
Photo by R. Sheridan.

"SAK-SAK": MANUFACTURE OF SAGO FOR FOOD, MANUS ISLAND

By MAURICE F. LEASK

"Mi no gat lik-lik kai-kai!" an entreaty often heard among native people, means very often that the men have no "sak-sak" in particular, for sago is one of the principal articles of diet eaten on Manus Island and its smaller, surrounding islands of the ADMIRALTIES. This district is one of the most northerly in the Trusteeship Territory of New Guinea.

The sago-palm (just "sak-sak") grows abundantly along the estuaries and in the coastal swamps of the largest island, Manus, particularly around the LAUIS RIVER in the east, the WARI RIVER in the south-east, the MALAI BAY area in the far south-west, and BOWAT BAY on the north-central coast.

In many cases, after the tree is felled the trunk is floated downstream to spot handy to the village before the food is manufactured from it.

Then the outer bark is split and prised partly off with poles, but is retained as a trough by numerous stakes fixed in the ground to support it.

The outer bark is prized off with poles.
Photo by R. Sheridan.

To loosen the fibres of the massive "pith," two men "fait" (strike) it with bows. These are permanent implements kept in the huts to be brought out for the purpose of food manufacture.

Two men strike the pith with bows.
Photo by R. Sheridan.

After the fibre is well broken, the pith is washed in a trough and is run into net bags which are hung on a pole to drain. These, too, are permanent articles made and kept aside for this specific use.

The illustration shows students of the AREA SCHOOL, LUNDRET, in the hills of MANUS ISLAND, at work on the outskirts of LUNDRET, VILLAGE, making food from a tree presented to the school.

Net bags are hung on a pole to drain.
Photo by R. Sheridan.

In its solidified state the "sak-sak" can be removed by turning the net bag inside out. For final drying, each mass is bundled in a "makfas" of leaves from the sago-palm, and these parcels are hung on poles in the sun, in readiness for transport or sale, or for display, prior to some "sing-sing" or other ceremony.

Ready for consumption in this way, the sago (just "sak-sak") resembles lumps of hard, chalky clay, white or pink in colour.

The illustration is of a display of food beside the track (number one road) at BULIHAT VILLAGE, inland on MANUS ISLAND.

These parcels are hung on poles in the sun.
Photo by R. Sheridan.

AN ABORIGINAL IMPLEMENT OF SPORT

By KEITH KENNEDY, Museum of Music, Townsville.

Like most sections of the human race, the aborigines of Australia had their sports and games. The illustration below shows a cross-shaped implement, which, in parts of North Queensland, was thrown for sport. The wood (**Ficus ehretioides** F. Muell.) from which the cross is made is soft and light, the implement weighing only three ounces. Each strip of the cross measures 44 cm. in length, width at the centre 4½ cm., and thickness of each piece at centre, 14 mm.

The lengths of wood are slightly convex on each surface, and are pierced in the centre so that they can be bound together, but the original binding of **Calamus** palm strips are missing. When placed on a flat surface it can be seen that each point of the cross viewed from the end, has a slight upwards slant to the left. The ornamentation is drawn on the upper surfaces only, with lines of red and the spaces filled in with black, white and yellow pigment.

According to Roth (N.Q. Ethnography, Bull. 4, 1902), who calls it a cross, the Mallanpara blacks of the Tully district call it the **pirbu-pirbu.** He mentions that it is used by men and boys only, and thrown in two ways. In the first, it is thrown directly into the air like an ordinary boomerang, but its flight is more circular than that of the boomerang, and it finishes with a double circle around the thrower. In the second way it is thrown to the ground directly in front of the performer, from whence it curves either to the right or to the left.

This kind of sport implement has only been recorded from North Queensland and only from the coastal and rain forest country between Cardwell and the Mossman River.

The implement is thrown for sport only, and when hurled into the air returns like a boomerang. I have not thrown this particular specimen because of the risk of a breakage, but a model which I made returns quite easily.

The exact locality from which it came seems to be unknown. All I know about its history is that about fifty years ago, a Mr. Grant, who was then connected with the Australian Museum, Sydney, paid a visit to the Cairns hinterland, and brought it back amongst other examples of aboriginal workmanship.

IN AND AROUND MY GARDEN

By DOREEN BARKUS

Now that the drought has broken, their visits have lessened, but I can hear them rejoicing and calling in the trees and tall grasses in the gully and nearby Bush. They are amongst the feathered wonders of this world and the most drab-coloured of them can bring joy to anyone who has time to watch or listen to them. I do not pretend to know their proper names and am sure that they give not a tweak of their smart beaks as to what Man has decided on the matter. They have begotten their common names often by their beauty, habits and calls.

To go back to their visits. Dry weather brings to all who live near the Bush, wild creatures driven by hunger and thirst to seek their wants afar and I know a lot of kindly folks possess a clam shell or handy shallow dish which they place under the garden tap or near a tank. There the birds come and go—to bathe and drink. Some disdain to stand on the brink of the vessel but cling to the tap for the drips. You should see the sunbird doing this—any trapeze artist would top the bill with their ability. From a distance the depth of the shell will not always permit you to see the actual dippings in and out of the bathing fuss, so what is seen is a shower of rainbow drops of water gaily thrown out into the air. You feel sure that the birds are saying, "This is quite wonderful!"

One day I sat having a snack luncheon in the kitchen. The motor of the "frig" working softly, the wireless sounding quietly in the next room and the hose playing softly in a patch just outside the kitchen window. The water was falling in finest spray, forming a wee pool on a papaw leaf. Beside it, on a branch, were no less than five varieties and as many sizes of birds, each awaiting his turn for a bath. A serious business too, for as they finished their separate ablutions they settled in a nearby shrub and preened themselves where the sunlight filtered through, accentuating their lovely colourings. There was no quarrelling amongst them, just soft twitterings. On the bitumen road down the hill motors went along noisily, but the sounds were distant and everything seemed far away. Birds do not seem to be long in accepting the presence of us humans. They come and go, helping themselves to grass seeds, water and nectar and must find enough for all their needs till the rains come and bring life to the vegetable kingdom at large.

Have you noticed that all birds, irrespective of size and habit, have character? We read of birds being described as humble or more humble than their mates. Surely that applies only to their plumage and colour. Some are certainly fierce, by habit and expression of eye, but all, I think, are beautiful. The gentler ones still have a command that does not require ferocity, and as for impudence! Even the Peaceful Dove manages to express that in the whirl of feathers when disturbed by Puss.

We have always had lots of Pheasant Coucals about—they really are graceful in their languid manner of flying, but this year the Bronze-winged Pigeon has been most conspicuous, sleek and fat. The flowering bloodwoods seem to attract Blue Mountain Lorikeets and they, like their gay and noisy parrot cousins go through the most comical antics. I recommend that you observe their acrobatics and love makings through field glasses.

There have been myriads of wrens of more than one kind around, no matter what the season. Walking down the road recently I disturbed six or more Lovely Wrens feasting in a mango tree. The tree is a young one and stands below road level, so the birds were almost on eye level. One or two flew away first, but at a bank so were longer in rising than they would have been from the other angle. It was morning and the sun was but in the tree top—I in the shadows. I had never seen these wrens about here before, a real indica-

tion to me of what the many bush-fires have done to our wild life. They were very beautiful, their colouring quite iridescent, and in the fuss of their and my astonishment, I could not define their markings, but there was a flash of brilliant blue, red and a dab of black. Some days later there were more of these birds taking water in the garden, but they were most timid.

And the sunbirds have been busy. Tearing down the old nest by the kitchen window and off with the bits to another site. Must have their building shortage too! During the tail end of the winter came lacy flowers on a widespread tree in the gully. They were flat and of considerable width and were followed in time by blue-black berries. Evidently they ripened gradually, for during the space of roughly three weeks an all black bird with bright red eyes reigned supreme—and I mean it! He stayed all day and every day. Up and down the branches he ran, chasing off hungry marauders. A true sample of greed and selfishness and accompanied with much noise.

The Friar Birds and the Mynas seem to be ever with us. The former amazing in the variety of their calls which one can translate into sentences to their own fancy, as "I won't come up. I won't come up." They certainly like the fruit —especially papaws, but their ravages are nil compared to the Flying Fox and his filth. The Myna, to my way of thinking, lives a life of comparative ease and free from want. He may be covered in horrid little lice—though I do not know if this is at all seasons or in all birds of his tribe—but what of that! He dwells near us nearly always—with us in our homes if given the chance. A new house to him is a thing of fine speculation and woe is he who leaves a small aperture for Myna. On citing same, he flies off, makes a snappy choice of mate and then cartage begins. Have you ever noticed how silly they look? Both birds carrying pieces of twigs and papers and feathers, nearly always greater in proportion to their own overall length. Then they poise on the nearest jutting beam and I think for the sole purpose of judging how to get the awkard building material into the hole—rather like stowing long timber as ship's cargo. For food, he scavenges in the garden, drain and fowl-houses. Water appears to be no problem and if you have no shell bath, then watch him in the puddles, the deeper the better and accompanied by much noisy cheering. Notice too how he screams at the household cat, defiance in poise and note. I can't help it if he is a nuisance—I like his sauciness, his walk and his plumage. He may be foreign in origin—but he's Aussie here.

Must not forget the Kingfishers who sit on the light cables and do their hunting from there, always so busy watching for and catching their food that I wonder that they have time to sing so merrily. They and the Rainbow Birds who join them at seasons, make for more colour in our world. And the Kookaburra who sits on the light poles and trees and laughs! So much masters of all they survey—till YOU come round the corner and then their laughs break suddenly, one saying to his mate in what I imagine may be an undertone, "Oh, Hell," and fly off, to be heard from the next tall object or ridge.

Daresay this could go on for some length, but I think I ought to mention my two domestics, Mesdames Black Orpington. They do a dual job in rearing the nucleus of our new egg department. Number one was quite alone but she did not feel inclined to bother about a family, so number two was brought in, very fluttery and motherly. She sat with no trouble at all. In the end, number one's interest was so aroused that at first cheep she helped to usher the chicks around and now she continues to do that, number two does the daily strain—no unions there.

So whatever their size, type or geographical habitat, give thanks to God for all feathered creatures. They, like ourselves have good and bad qualities, and may the best ones always dominate.

Townsville and District Naturalists' Club

President: **K. Kennedy**, Esplanade and Rose St., Kissing Point.
Hon. Secretary: **Elizabeth Kennedy**, P.O. Box 178, Townsville

The Club meets usually on the first Friday of the month.
Meetings held at Adult Education Centre Lecture Hall.

MEETINGS

December Meeting, 1948. Ants and their way of living was the subject of a lecture by Mr. J. H. Holliday. The adaption of ants to their environment was explained, especially the modification to any life caused by the dessication of the Australian Continent that followed the humid conditions of thousands of years ago. Mention was made of the storing of nectar by the honey ants of the interior, also the cultivating of fungi by a species of ant in Brazil which gathers leaves which are processed so that fungus will grow in them.

December Field Day. The December Field Day was to Deep Creek about two miles south of Bluewater, on the Ingham Road.

January Meeting, 1949. The Meeting for January took the form of a members' night. Mr. L. R. Black read a paper on the Field Day for December and gave a very interesting description of the birds, fish and other things he had seen. Mr. K. Kennedy exhibited a ceremonial whistle, incense blower and pottery figure of a rain spirit, all from New Mexico and explained how the modern Yule tide festivities culminating in New Year, go back to Neolithic times, being an ancient sun ceremony of pre-historic man. He also exhibited specimens of the Conus Shell, the live mollusc of which can inflict poisonous sting which has caused the death of several persons. Some bangles made in New Guinea from the Conus Shell were also shown.

Mrs. E. Kennedy exhibited a bronze figure of Osiris from an Egyptian tomb and spoke on ancient Egyptian mythology.

Mrs. S. Brock, in the absence of her husband who was up North, exhibited some jewel beetles which were gathered by him on the Barron River.

January Field Day. The January Field Day took place at Arcadia, Magnetic Island.

February Meeting, 1949. At the February Meeting a talk was given by Miss Nancy Hopkins on her recent visit to Matarinka, in the Northern Territory. Matarinka is on the Roper River and not far from the deserted Elsey homestead made famous by Mrs. Aeneas Gunn. (Of this only a small cemetery remains). Miss Hopkins gave a graphic description of the type of country and its natural features, which include a spring of very clear mineral water forming a large pool that overflows into a tributary of the Roper, and a place called by the blacks the "Jump Under," where the Roper disappears and runs underground for a while. Some of the botanical features of the country were described and a comprehensive list of birds observed during her stay was given. Some of these Territory birds are identical with those of North Queensland others are of the same genus but of different species. A humorous account of a war between two flocks of white and black cockatoos was related in which the black cockatoos were driven off.

February Field Day. The February Field Day was to Pallarenda.

NORTH QUEENSLAND NATURALISTS' CLUB

President : **J. M. Gray**, Spence St., Cairns.
Hon. Secretary: **J. Wyer**, "Lochinvar," 253 Sheridan St., Cairns

Meets at School of Arts, Shields Street, Cairns, usually on second Tuesday in each month, at 8 p.m.

Next Meeting, Tuesday, 8th March, 1949.

Address by Mrs. Morley, ex-President Swansea Naturalists' Society, South Wales.
"Far Afield with the Naturalists in Merrie England."

MEETINGS.

14th December, 1948. Address by Mr. S. Sanders on Aboriginal Art in Cooktown and Cape Melville Areas.

11th January, 1949. Social function at Merchant Navy Club was well attended, when music and other entertainment was provided. Colour film of Bird Life on Michaelmas Cay exhibited by Mr. A. B. Cummings.

29th January, 1949. Launch Expedition to Turtle Bay. Although an attempt to reach a native art gallery did not succeed, a very interesting and well attended excursion was held.

8th February, 1949. Considerable tion of exhibits shown, includir native praoe from Dutch N Mr. Prince, shells from and pressed flora fr

NEW MEMBERS ELECTED

8th February. D. R. Peiniger, Edward Street, Cairns; Wm. T. Chandler, Cooktown; Glen M. Storr, 22 Commercial Rd., Hyde Park, S.A.; P. J. Courtney, 66 Cairns St., Cairns; Noel McGregor, 196 Sheridan St., Cairns. Also Junior Members, D. J. Rixon, Cr. Severin and Minnie Sts., Cairns: W. A. Smart, Main Rd., Earlville.

PUBLICATIONS BY N.Q. NATURALISTS' CLUB

1. Check List of North Queensland Orchids. Price 1/-.
2. Marketable Fish of the Cairns Area. Price 1/-.
   heck List of North Queensland Ferns. 1/-.
   lants in North Queensland.
   occurring in North 2/-.

The
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Vol. XVI CAIRNS, 1st JUNE, 1949 No. 91

TWO STONE ARTIFACTS FROM NORTH QUEENSLAND

By KEITH KENNEDY, Curator, Museum of Music, Townsville

STONE ARTIFACTS FROM N.Q.

ABOVE: Stained Igneous Rock
BELOW: Heavy Igneous Rock

The above illustration shows two uncommon stone artifacts from North Queensland. The smaller, No. 1, is made from an iron stained igneous rock and weighs 8¼ ozs. Its base measures 18 cms. from point to point, with a width of 2½ cms. at the centre. The knob or handle measures 6½ cms. from the base on one side, and 7 cms. from the base on the other side, so the plane of the base is at a slight angle.

It was found by Mr. C. Freeman of Townsville, during January, 1949, at a depth of 18 ins., while putting down a post hole at Miriwinni on the railway line, five miles south of Babinda. With it was a hammer stone and a large anvil stone. The latter he was unable to remove.

Mr. Freeman, on presenting his find to the above Museum, mentioned that at times he had seen similar artifacts, and said that they were used by the aborigines for smoothing their wooden implements, such as their large wooden swords. The mode of procedure was to place a little sand and water on the wooden surface to be treated, and, grasping the tool by the knob, to rub until all irregularities were smoothed off. This explanation of their use seems to be borne out by the fact that the bases of both artifacts in the illustration are polished and shiny, as if they had been ground against some hard object. These bases are also marked with minute striations, which lie in the direction of the width, indicating that they had been made by rubbing the implement sideways.

The larger implement, No. 2, belongs to Mr. J. Popham, of Townsville, and was given to him by Mr. S. Fowler of Townsville, who obtained it from the Herbert River district. It weighs 12 ozs. and is also made from a heavy igneous rock. The base measures 13 cms. from point to point, but unfortunately, one end has been broken off, so it was originally longer. Width of base at the centre is 2 cms. The knob or handle is set at an angle of 70 degrees, and measures 12¼ cms. from the base on one side, and 13 cms. from the base at the other side, so the plane of the base is also at a slight angle.

This kind of artifact seems to be rare, and is probably peculiar only to the North Queensland aborigines, so any additional information regarding its use and distribution would be welcomed.

RARE BIRDS IN THE TOWNSVILLE DISTRICT

Ornithologists appear to have done little field work in the Townsville district, with the result that our bird books understate the range of several species known here. Thus Neville Cayley quotes Cardwell as the southerly limit of birds actually present in this or the Mt. Spec district, e.g., the Shining Flycatcher (**Piezorhynchus alecto**) and Cassowary (**Casuarius casuarius**), while other Mt. Spec birds, the Tooth-billed Bower bird (**Scenopoeetes dentirostris**) and Northern Chowchilla (**Orthonyx spaldingi**) are attributed by him to the Cairns district only.

More surprisingly, the White-gaped Honey-eater (**Stomiopera unicolor**), one of our most constant garden visitors, is quoted by him as extending "from Fitzroy River in the north-west to the Leichhardt River in Queensland". This honeyeater is not common in the surrounding bush, and does not appear to have spread far along the coast. It would appear that it has penetrated to this area through north-west Queensland.

Dry weather visitors from inland are not uncommon, and include the Diamond Dove (**Geopelia cuneata**), Red-backed Kingfisher (**Halcyon pyrrhopygius**) and Cockatiel (**Leptolophus hollandicus**) which last has been observed nesting at Stuart. Most fascinating is the Australian Pratincole (**Stiltia isabella**), which appears when the marshes of the Common are reduced to dry plain, and disappears with the rains. I have not been able to learn much about the Pratincole's migrations, but it seems likely that it also comes from the west. Some birds books expressly exclude the east coast area from its range.

In 1938 I found a pair nesting on the Common. A colony of Pratincoles spreads itself over a large area, and each pair seems to have its own territory. This fact enabled me to observe in a series of visits the progress of the one young bird, which, though it could run from birth, grew to maturity in the same half-acre. The parent birds invariably presented a marvellous display of decoy tactics. I concluded that no other birds were breeding, as my presence provoked no such response from other members of the colony, though I spent much time among them that year. They are interesting birds to watch. Although most of their time is spent on the ground, they are often seen flying high in pursuit of insects, so that they are aptly described as Swallow Plovers.

The Pied Heron (**Notophoyx aruensis**) officially recorded from the North Australian coast, Wyndham to Cape York, makes rare appearances on the Townsville Common. I saw my first bird there in March 1938. In March 1941, three birds were in the same locality for a week, and in May 1945, I observed, again in the same area, what I assumed to be an immature pied heron, as it could not be identified as any other species. Its size, form and colouration were those of the Pied Heron, but its plumage was dull instead of glossy, and it lacked the head plumes. Standing in shallow water, it scratched the mud with one foot, as the Little Egret sometimes does. If it was indeed a young Pied Heron, one wonders whether it was actually bred here. Possibly however, it takes longer than one season for the young to attain adult plumage. From our few glimpses, it would seem to be merely a stray caller down our coast.

Another rare bird recorded on the Common is the Black-tailed Godwit (**Limosa limosa**). Though its range is wide, recorded appearances in Australia have been very rare, and I had never seen it until the summer of 1947-48. During that summer a flock of about twenty remained in the vicinity of the Common for a few months. Mr. Brock, of the Townsville Naturalists' Club, and myself observed them on several occasions and had ample opportunity of studying their distinctive markings which leave no doubt as to identtiy.

Until recent years we looked upon the Lotus-bird (**Irediparra gallinacea**) as a rare bird. Fifteen years ago I caught a glimpse of one on the big lagoon at Belgian Gardens, and on the following Sunday I tramped all around the lagoon looking vainly for another. Now there are red-crested lotus-birds scattered about the lagoons, and walking the lily leaves as long as the water lasts. Quaint, large-footed baby birds, though less conspicious, are quite common. Protection of bird life on the Common and the damming of lagoons, have created a perfect breeding ground, and I am happy to say that this lovely bird is no longer rare.

NANCY HOPKINS.

ABORIGINAL MILLSTONES OR GRINDING STONES—DUCHESS DISTRICT

By RODERICK LE ROSSIGNOL

Cloncurry is in the heart of the Kalkadoon territory. Duchess, situated from it approximately eight miles south west by road, is close to areas containing some very well preserved relics of this much-famed tribe of aborigines.

Recently a short period was spent in the Duchess district, during mineralogical investigations, consequently some interesting traces of tribal aborigines were observed and collected, those to be now described consisting of two grinders, slab portions only, and lately forwarded to the North Queensland Naturalists' Club as additions to the excellent collection of ethnological artifacts already in their possession.

Both implements are, of course, the lower grinders, or nether-stones, and strangely enough, each is incomplete insofar that the extreme two or three inches of stone at one end were almost squarely broken across, the fragments therefrom being lost to our collecting.

Roughly oval in shape and approximately of equal dimensions, they measure overall:—36.0 plus and 33.0 plus cm. in length, 22.5 and 22.0 cm. width and 3.1 and 3.3 cm. thick respectively. Being imperfect they were originally of somewhat greater length. Each is fairly uniformly flat with crudely hollowed longitudinal depressions worn during the process of grinding food materials. These depressions varying between 7.0 and 10.0 cm. in width, were parallel to the longer dimensions, somewhat to one side of the utensil and occupying less than one half of the total width.

The stone in each case appears to be quartzite, or a dense sandstone, with one implement having a thin band of white quartz, less than one half an inch wide, traversing the shorter dimension at approximately one third the distance from one end.

These grinders were found in association with several other artifacts, and in the perimeter of an erstwhile corroboree ground, a flat level area entirely swept of all stones and obstacles to leave a cleared circular space of approximately thirty feet in diameter. The debris, mostly quartz fragments, formed a low peripheral ridge, not more than three or four inches high.

Several small mounds of quartz fragments, not exceeding eighteen inches in diameter and some eight inches high, were observed twenty yards away from the perimeter of the corroboree area— their significance if any, could not be determined.

Within the cleared circle, but placed eccentrically, were the remains of a fire. Much fragmented charcoal, small stones and fine powdery ash were found beneath the surface, also a few bones of what was probably a bird or small mammal.

The disposition of this corroboree area was interesting, being within half a mile from what must have been a series of permanent waterholes, and placed within 300 yards from where the watercourse took an encircling series of bends between fairly high banks. The surrounding landscape was gently undulating before giving way to abruptly steep hills at the east and south, low lying for some distance elsewhere. The whole region was very scantily vegetated, trees, being mostly stunted and sparse.

TOWNSVILLE AND DISTRICT NATURALISTS' CLUB

President: **K. Kennedy,** Esplanade and Rose St., Kissing Point
Hon. Secretary: **Elizabeth Kennedy,** P.O. Box 178, Townsville
The Club meets usually on the first Friday of the month.
Meetings held at Adult Education Centre Lecture Hall.

MARCH MEETING

Mr. S. Brock gave an account of his visit to Cooktown just before the cyclone, when he went there to secure specimens of Coleoptera. He described the geophysical aspect of the surrounding country, and gave a list of the birds he observed during his stay. There were not many epiphytic orchids to be seen, as the vicinity of Cooktown has been depleted by collectors, and of the well known Cooktown orchid (**D. phalaenopsis**), only small specimens remain. Numbers of a terrestial orchid (**Dipodium punctatum**), were observed, including a variety **alba.** Of the **Coleoptera,** or beetles which were gathered, some beautiful iridescent specimens were exhibited by the lecturer.

MARCH FIELD DAY

March Field Day was to Althuse Creek, south of Bluewater.

APRIL MEETING

Mr. Kennedy spoke on Fiji and the Fijians. He gave a brief talk on Fijian culture, ancient religion and history, then followed some coloured lantern slides from photographs taken by the lecturer, when on a scientific expedition to some of the lesser known islands. These showed Bau, the old capital, where once Thakambau ruled, canoe sailing, coconut milk making, native agriculture, lali (drum) beating, tenga throwing, fire making cooking wakalolo pudding, and finished with scenes of a yangona or kava ceremony on Vanua Levu. The stage was decked with many objects of Fijian art, including a beautiful piece of Gnatu or tappa cloth, pandanus leaf matting, a tambua, a carved head rest, kava bowl, various kinds of clubs, etc. The lecturer explained the manufacture and use of the exhibits and related many stories and legends of Fijian folk lore. He also described his visit to the pool of the ura mbuta, near Naweni, where, on special occasions, the sacred red crayfish come out and swim around when the Fijians sing to them.

APRIL FIELD DAY

The April Field Day was to the Town Common where many birds were observed. The day was made memorable by the fact that a Lotus-bird's nest (**Irediparra gallinacea**), with four brownish eggs covered wit black lines, was found quite close the edge of one of the lagoons, easy view of the members, some whom took pictures. Other bir observed were: swamp hen, stilts, e ret, brolga, magpiegoose, and othe

MAY LECTURE

Mr. Owen Maloney gave his lectu on his experiences in New Zealan He told of a Maori feast, and Maori customs, also of the metho they use in cooking their food earth ovens, with heated ston which are laid on top of, and unde neath the food, which has be wrapped in flax mats and carefull covered over to prevent dirt and ash getting into the food. He spoke the native sport of hurdle races canoes. The scenery of New Zealan was described as well as the bird li and the lecturer told of how he tri to make friends with a kiwi.

MAY FIELD DAY

The May Field Day was to t Town Common swamps near t Aerodrome. Birds observed include Rainbow Bird, Black-faced Cucko Shrike, Brolga, White Ibis, Straw necked Ibis, White-necked Hero White fronted Heron, Magpie Goos Masked Plover, Lotus Bird, Egre White Cockatoos. Also some spec mens of **Marsilia hirsuta** were collec ed.

NORTH QUEENSLAND NATURALISTS' CLUB

President: **J. M. Gray**, Spence St., Cairns.
Hon. Secretary: **J. Wyer**, "Lochinvar," 253 Sheridan St., Cairns.
Meets at School of Arts, Shields Street, Cairns, usually on second Tuesday in each month, at 8 p.m.

MEETINGS

Tuesday, 8th March. Address by Mrs. H. Morley, Ex-President Swansea, Naturalists' Society, South Wales, "Far Afield with the Naturalists in Merrie England".

27th March. Field Excursion to Palm Beach.

12th April. Owing to exceptionally stormy weather, meeting lapsed for want of quorum. Messrs. Roy Mackay, Kevin Budden and Neville Goddard from Sydney en route to Coen in quest of reptiles gave an informal address.

10th May. Address by Mr. J. H. Holliday on "Ants."

NEW MEMBERS ELECTED

8th March. P. J. Courtney, 66 Cairns Street, Cairns; Daniel R. Peiniger, Edward Street, Cairns; W. T. Chandler, Cooktown; G. M. Storr; 22 Commercial Road, Hyde Park, S.A.;

8th March. Mrs. H. Morley, 141 Martyn Street, Cairns; Mrs. Vlasoff, Abbott Street, Cairns;

10th May. C. H. Sanders, 1 Sheridan Street, Cairns; Howa Burns, Miles Street, West Cairns; Mi M. F. Crommelin, Pearl Beach, Woy Woy, N.S.W.

Junior Member. John Stapleto 185 McLeod Street, Cairns.

WEEK-END EXCURSION TO CHILLAGOE AND MUNGANA

Special Rail Motor leaves Cairns **11th June, returning 13th June**

PUBLICATIONS BY N.Q. NATURALISTS' CLUB

1. Check List of North Queensla Orchids. Price 1/-.
2. Marketable Fish of the Cair Area. Price 1/-.
3. Check List of North Queensla Ferns. Price 1/-.
4. Edible Plants in North Queen land. Price 2/-.
5. List of Birds occurring in Nor Queensland. Price 2/-.

THE
North Queensland Naturalist
The Journal and Magazine of the North Queensland Naturalists' Club

Vol. XVII CAIRNS, 1st SEPTEMBER, 1949. No. 92

THE CAIRNS FIG TREE

(By H. FLECKER)

If there is one feature which is distinctive of the City of Cairns and which has been appreciated by its residents and visitors alike, it is the existence of a large native fig tree, **Ficus infectoria,** growing in the busiest section of Abbott Street, the main shopping and business centre.

Tourists may not be greatly impressed with other features of the city, but most will surely remember the great tree, when every other feature of this town will be forgotten.

At this particular portion of the street this wide thoroughfare has an ornamental garden plot in the centre surrounded by a concrete border. Traffic on either side of this plot accordingly is in one direction only.

The high tension cables are situated over the centre of the plot. The tree is located close to the footpath kerbing on the eastern side, reducing by rather more than half the roadway for vehicular traffic, so that automobiles are obliged to proceed in single file between the tree and the garden plot for there is no room for overtaking. Despite this there is evidently more room than the interval between the kerbing and the single line tram rail in Sydney's busiest street, Pitt Street, a city of over a million people.

The age of the tree is unknown.

One estimate made in 1938 was that it was a hundred and twenty five years old, but this must surely be a guess.

The age of fig trees cannot be estimated by the criteria applicable to many other trees by counting the number of annual rings.

In the first place a great many members of the genus **Ficus** often start as parasites on other well established and often very large trees, even at great heights whence long trailing roots descend to the ground entering the soil from which they ultimately derive their nutriment.

In the process neighbouring roots join together to form a close network, thus effectively preventing further growth of the host tree, which is thereby strangled and so perishes. Even in the well established tree, large roots proceed directly from the high branches, sometimes passing directly to the ground but often closely applied, may be very tightly to the trunks and branches.

The assemblage of the numerous roots may be so dense as to obscure the trunk underneath. At Yungaburra is a leaning trunk of a fig tree, in which such roots have passed down in such dense profusion as to form a solid curtain.

The decayed trunk of the host tree serves as nutriment for the parasitic roots.

It seems to be a fact that there can be no natural death of the fig tree as new roots are for ever springing up to replace any which may decay. One thing fairly certain is that the tree in Cairns was present before settlement took place over 70 years ago, but of course there is no record of when it sprouted.

In earlier years there were a number of similar large fig trees in the neighbourhood but these have all since been demolished. There was an even larger specimen removed from the Court House grounds only a few yards away.

Smaller specimens are to be found in Anzac Park in the next block, whilst seedlings are continually sprouting up in sundry localities, as in the guttering, in cracks and crevices in buildings, and even on brick walls!

In the original description of **Ficus infectoria,** Roxburgh described the fig tree as he saw it in India as a "low tree of moderate size."

The Cairns specimen, however, has been determined in 1936 by Biswar of the Calcutta Herbarium as var. **Forbesii** King, a tall variety found in Malaya.

In 1936 the late Mr. Gordon L. Rutherford surveyed the tree and found the height to be 70 feet 4 inches, and its spread from north to south and also from east to west to be 66 feet, so it stood on a circle of a chain diameter.

The girth at the butt, that is, 18 inches above the ground was 23 feet 6 inches, and where the first limb arose 18 feet, that is 10 feet above the ground.

However, recent measurements taken 13 years later (August 17, 1949) by Mr. H. O. Barkus, show that the tree is only 68 feet 5 inches above the top of the street kerbing, so that it does not appear to have increased at all in height during this considerable period.

There has, of course, been much trimming of the tree.

Great and small branches have been lopped so as to avoid interference with high tension wires, traffic and buildings.

Some underground roots likewise had been dug up some years ago so disturbing the footpath now possessing an old asphalt surface.

Nevertheless, one can be sure, that it is particularly firmly established and that a cyclone might destroy all the buildings in the neighbourhood without making any impression upon the firmly rooted tree. This, however, could not be said of at least the fig tree of another species, namely **F. Thynniana,** formerly situated on the Esplanade. One particularly fine specimen at the foot of Aplin Street was seriously damaged by storm in 1940 only after numerous picknickers had lit fires at its base to boil their billies, burning a hole in the centre of the trunk.

An effort to salve the tree was frustrated when it was finally ringbarked by an Anti Aircraft Unit stationed there in 1943, three years later.

Another specimen in front of the Police Station had been so lopped of its various supports, and its attachment in the sandy soil so enfeebled that it was finally blown down against the fence in a gale.

The fig tree is deciduous, and towards July or August has lost all its leaves exposing to view numerous epiphytes, notably large numbers of the cream coloured flowers of the Northern Pencil Orchid, **Dendrobium teretifolium** var. **fasciculatum,** the short flowering season of which curiously enough coincides with the equally short leafless period of its host.

The Northern Elkhorn Ferns, **Platycerium bifurcatum** and the **Drynaria rigidula** are likewise exposed to view.

Almost stalkless, some of the pretty little pink figs still remain on the tree, which is now covered with innumerable buds all ready to burst out into various combinations of shades of brown, orange, yellow to pale hues of green, deepening into the deeper colour of the new leaf.

It is truly a wonderful sight to watch the transformation in the appearance of this giant in the course of but two or three brief weeks.

The illustration on the front page is from a photograph taken by Mr. C. Jackson in 1934, formerly Manager of the Commonwealth Bank of Australia, the top picture showing the tree in its leafless state and the lower the transformation within only a fortnight or so afterwards. In the 15 years which have elapsed since there is very little change in the appearance of the tree.

One particularly large branch, having a northerly aspect, is for some reason or other a trifle in advance of all the others and by means of this curious fact, which, by the way is apparent at all stages, one is able to note a considerable difference in its appearance.

Large birds regularly roost on the tree, often twenty or thirty or even more at a time, and in the early morning as well as towards dusk, all three species of the egret as well as other species of herons can be noted, also the Straw-necked and White Ibis.

Moreover, when the figs are ripe large numbers of the Yellow-breasted Fig Birds are always ready for the feast, and make the neighbourhood particularly lively with their loud chattering.

Is it any wonder then, that this oldest inhabitant of Cairns should be revered by most of its residents and considered an important feature not possessed by other cities?

But a serious bomb has been thrown. A new City Council had been elected and at an early meeting, it was decided by six votes to three to remove the tree.

A complaint had been lodged by the owner of an adjacent single story building that the tree had become a nuisance inasmuch as its roots had interfered with some of the architecture and that in particular the leaves had blocked the guttering and caused special damage to the plumbing.

From the point of view of traffic danger, no accident of any kind has ever been reported from this locality, nor can the traffic police assert that it is dangerous to traffic, although admitting that its removal will permit of additional parking space for two or three automobiles.

Of course numerous protests have been appearing in the press, and it is now evident that these will be unavailing.

Surely its removal, estimated to cost £500 will cause very great disappointment and sorrow, and the city will lose one of its best ornamental treasures.

There was no request or demand for the removal of the tree.

The matter was referred to the City Council's Curator, who reported than an underground partition would suffice to prevent the roots reaching the building, and of course there is no insuperable difficulty in removing the leaves from the guttering. It appears that the sprouting of new seedlings had been mistaken in some cases for the action of roots.

A MIGRANT ADZE BLADE FROM NEW GUINEA

A RELIC OF THE PENINSULA

(By Keith Kennedy, Museum of Music, Townsville).

The illustration shows the blade of a stone implement from the Cooktown District of Cape York Peninsula, which was recently brought to the above museum for identification as the owner thought it might be greenstone. Examination, however, proved it to be made of an olivine igneous rock of the kind sometimes employed by the natives of Papua in the manufacture of adze and axe heads. It was submitted by Mr. C. Freeman for a friend, Mr. H. Neil, who, when a boy nine years old, picked it up at an aboriginal camp on Black Mountain after the blacks had been driven off by a "reprisal" raid by the whites, some seventy-five years ago.

When found it was mounted axe-fashion on a forked wooden haft and bound on with kangaroo sinew.

Unfortunately the haft has been lost, but the finder remembers that one prong of the fork was slightly higher than the other. The shape of the stone blade reveals that it is not an axe head but an adze, for the cutting edge is bevelled on one side only, and the whole implement is polished, and therefore belongs to the neolithic stage of culture, Probably the reason why one fork was higher than the other was to correct the balance when chopping, as the bevel would cause the impact of the stroke to be on one side of the blade.

From an ethnoligical point of view the implement is interesting, for it is evidence of cultural diffusion from New Guinea. Evidently it travelled across the Torres Straits, down the Peninsula to the Cooktown district, where the aborigines converted it into an axe.

TOWNSVILLE AND DISTRICT NATURALISTS' CLUB

President: Keith Kennedy, Esplanade and Rose Streets, Kissing Point. Hon. Secretary: Elizabeth Kennedy, P.O. Box 178, Townsville, N.Q. The Club usually meets on the first Friday of the month. Meetings held at the Adult Education Centre Lecture Room, Wickham Street, Townsville, N.Q.

TOWNSVILLE AND DISTRICT NATURALISTS' CLUB

LECTURES AND FIELD DAYS

JUNE LECTURE

The June meeting of the Club took the form of a members night. A collection of stone axe heads and New Guinea adzes were displayed by the President, Mr. Keith Kennedy, who spoke on their evolution, method of manufacture, of various shapes obtained. Amongst them were axe heads from various localities as far apart as Victoria and North Queensland. Mr. Stan. Brock spoke on the Pteranodon, a reptile bird of the Jusassic period, and on the extinct dodo of Mauritius. Mr. J. J. Selvage spoke on finding the body of an animal thought to be a wombat at Stuart and Mr. A. Daniels of finding the body of an American armadillo near Bowen which he surmised must have been brought there amongst the ballast of some ship. Miss N. Hopkins gave a list of birds she had observed in the town environs during the month of May, and Mrs. E. Kennedy submitted a list of birds observed on the Town Common on the May Field day of the Club.

JUNE FIELD DAY

The June Field Day was to Cape Pallerenda where the botanical and marine life was studied.

JULY LECTURE

Mr. J. J. Selvage spoke at great length on the beaks of various land birds beginning with the domestic fowl, up to members of the cockatoo and parrot family. Then he commenced with the aquatic birds beginning with the ducks, the spoon bill and then the pelican, which he stated has the longest bill amongst the birds. Going on to legs, he spoke about the parrot that can use one of his feet as a hand, also about the earth scratchers, the scrub hen, and conjectured on the number of insects that must be unearthed during the building of its nest. The lecture was followed by a discussion on the beaks and legs of birds in general.

JULY FIELD DAY

The July Field day was to Picnic Bay, Magnetic Island. Members walked to Nelly Bay where botanical and marine life was observed.

AUGUST LECTURE

Mr. F. H. Brazier gave a very interesting lecture on Astronomy. With the aid of a large globe the lecturer demonstrated how the inclination of the earth's axis causes the seasons, and how the earth travelling in its orbit around the sun makes the stars seem to be in different positions at different times of the year. Mention was made of the composition of stars as shown by the spectroscopes, and their immense distance from each other, and the existence of satellites, evidenced by the variability of their intensity. He also spoke of large meteorites that have fallen in Arizona, Siberia and Greenland, their cause and mineral composition. After the lecture there followed a discussion on the transits of Venus and Mercury, the small meteorites known as "black-fellows' " buttons, the nebular theory and the expanding universe theory.

AUGUST FIELD DAY

The August Field Day was to the Town Common, and Shelly Beach. Bird and botanical life were observed on the Town Common, and marine life was also studied at Shelly Beach.

ELIZABETH KENNEDY,
Hon. Secretary.

THE TRIP TO CHILLAGOE

(By Doreen Barkus)

There was the usual business at the Cairns station of selecting seats, settling in possessions and being introduced to all and sundry as well as saluting those already known to one. Certainly it was a pity that the list of thirty-seven names wasn't made up of more club members, but for all that there was naught to complain of as everyone was eager to be friendly and to enjoy the trip.

No matter that one may have previously viewed the scenes from the railway going to Kuranda, there is always an intense interest, for slow though the rail motor may be, the views flash by all too quickly and there were the ferns, trees and grasses to be watched for too. The time was early morning and the lighting excellent. It was good to note that no bush fires had made havoc, so the way was really green. After Kuranda everyone seemed to have settled down and despite the noise of the motor there was no lack of conversation. I regretted that we went by too quickly to enable me to get a good look at what I took to be white everlasting, **Helichrysum albicans.** They grew in clumps along the way and made a pleasant break in an otherwise not too interesting landscape. From Mareeba we thought we saw a change in the country—much open forest which is ever lovely, and it was well grassed. There were many homes on properties of variously cropped land and we took as good a look as possible at the tobacco and peanut areas. In the then deserted tomato fields there were many brilliant unmarketable tomatoes left by the pickers. We thrifty housewives sighed to think of what lay there and what lay in the shops,—at a price. As we went on and ascended gradually, we came to Cape Horn, which name seemed incongruous indeed and a few snap-shotters took pictures of the name sign, probably with the idea of seeing it again in some popular weekly. Lappa Junction I thought was pretty in an isolated way and it is not only a junction of the rails but of the hills. I fancy everyone considered the tea and scones were good there. The latter large, well baked and certainly homemade. Many will recall the hens and chickens which fed upon the crumbs and had no fear of the traffic. The country was panoramic in stretches and so afforded fine views and many creeks still had water running. The trees varied in density but scarcely so in height and I considered the silver leafed gum, **Eucalyptus Shirleyi** quite the most beautiful. As we approached Chillagoe the limestone outcrops were the feature of the terrain. They vary considerably in area and height and the biggest masses resembled turretted castles and have amazingly balanced rocks here and there on their tops. From points in Chillagoe they were to be seen as vast "ranges" and appeared in the sunlight or moonlight as distant cities—the buildings of mellowed masonry.

Much praise is to be given to the Progress Association, the hotel proprietors and their staffs for their hospitality during the weekend. It was delightful to feel welcome and we were all most comfortable and well catered for. The weather was quite perfect and warmer than anticipated so that woollies were gradually peeled off during the days.

Arrangements had been made for the conveyance of all to the Chillagoe Caves on the Sunday morning and to the Donnar Cave in the afternoon. In the former one enters at earth surface level and in the latter there is a descent of 85 feet by crude steps and boulders and an old ladder already there and which was in a good state of preservation. The Donnar Cave had not been entered for about fifteen years. Neither caves had been spoilt by souvenir hunters. That same afternoon some of the party went to Bald Knob and Hennesy Caves and these are much smaller than the others which are the largest in the Chillagoe district, the total number being roughly twenty-seven. A photographic party went again to the Donnar Cave on the Monday morning whilst the others walked over to the Smelters. For illumination they used six carbide lights and a 22-minute exposure. There is no filtered daylight in the Donnar Cave excepting at 10 a.m. when the sunlight enters through the opening and the angle of light varies seasonally. Everyone was confident of the guides. It is no small thing to be able to find one's way in that maze

of large and small passages and caves. The caves are amazing and allow great scope for every individual's imagination. Fanciful formations of limestone were given such names as,—the Elephant, Market Garden, Bridal Veil, Shark's Tooth, Guest Room and some others. It was amusing to "ring" chimes on the long stalactites. Occasionally shafts of light came from the top and in the wider spaced ones one saw the blue sky and trees' tops.

We crossed the Weir, by a high bridge to go to the Smelters. It ran swiftly and there was a fine swimming pool down a bit which made me wish I had brought bathers. At the Smelters there was not much to see for so much has been removed. One member of the party had real knowledge of its workings and I do think he had great patience for there was little to give a good lecture upon. The only life about was a very new kid but there was ample evidence that its multitudinous relations lived there and would certainly return ere night fell and then its appetite would be satisfied. We walked out to the edge of the slag, tons and tons deposited had made a great area. It all struck me as utter desolation,—the sun, wind and rust.

The country at Chillagoe and around offers good scope to the artist and though there is little shopping choice, one knows that it is the centre for the vast back country.

We spent an evening at the pictures, an open air show, and there was a dance on too. I know of a certain pair who "gate-crashed" at the Chillagoe—Almaden tennis match in progress on the Sunday, and whereas our afternoon tea that day consisted of soft drinks, they reported that their afternoon tea was lavish and delightful!

Our departure at 1 p.m. on Monday, included of course the usual speeches vowing good fellowship, reciprocal hopes for a return trip, thanks for the generous help and welcome and several camera shots. It was all good fun and the station bell was brought out and clanged, causing much merriment. It was eclipsed however, by two terrific bangs caused by detonators having been placed on the line at well spaced intervals and set off as we moved over them. It gave us a final boost of farewell and there were shrieks and laughter.

A small storekeeper who told me she had lived for over ten years in Chillagoe said:—"Chillagoe is a lovely little place,"—so, I'll leave it at that.

NORTH QUEENSLAND NATURALISTS' CLUB

The Journal and Magazine of the North Queensland Naturalists' Club.

President: **J. M. Gray**, Spence Street, Cairns.

Hon Secretary: **J. Wyer**, "Lochinvar," 253, Sheridan Street, Cairns.

Meets at School of Arts, Shields Street, Cairns, usually on second Tuesday in each month, at 8 p.m.

Annual General Meeting, Tuesday, 13th September, 1949.

Annual Report. Presentation of Balance Sheet. Election of Officers, Etc.

MEETINGS AND FIELD EXCURSIONS.

11th to 13th June. Excursion to Chillagoe by rail motor. Reported in this issue.

14th June, 1949. Lecture by Dr. O. H. Selling, Palaeobolanist of the Swedish Museum, Stockholm gave an address on "Fossil Plants of the Pacific Area." It was illustrated by lantern slides.

12th July, 1949. Address by Mr. N. L. H. Krauss, on "Control of Fruit Fly by Parasites," illustrated by specimens of flies and parasites.

16th August, 1949. A particularly interesting and informal address was given by Mr. Frank Hurley on "The Expeditions to the Antarctic with Sir Douglas Mawson."

NEW MEMBERS:

14th June, 1949. John H. Irvine, Hambledon.

12th July, 1949. Dr. G. H. Ellis, Charters Towers.

16th August, 1949. R. W. McLoughlin. Earlville.

PUBLICATIONS BY N.Q. NATURALISTS' CLUB

1. Check List of N.Q. Orchids. Price 1/-.
2. Marketable Fish of the Cairns Area. Price 1/-.
3. Check List of North Queensland Ferns. Price 1/-.
4. Edible Plants in North Queensland. Price 2/-.
5. List of Birds Occurring in North Queensland. Price 2/-.

ERRATUM. In last issue, No. 91, p. 25, first column, line 6. For 18 cms. read 13 cms.

The North Queensland Naturalist

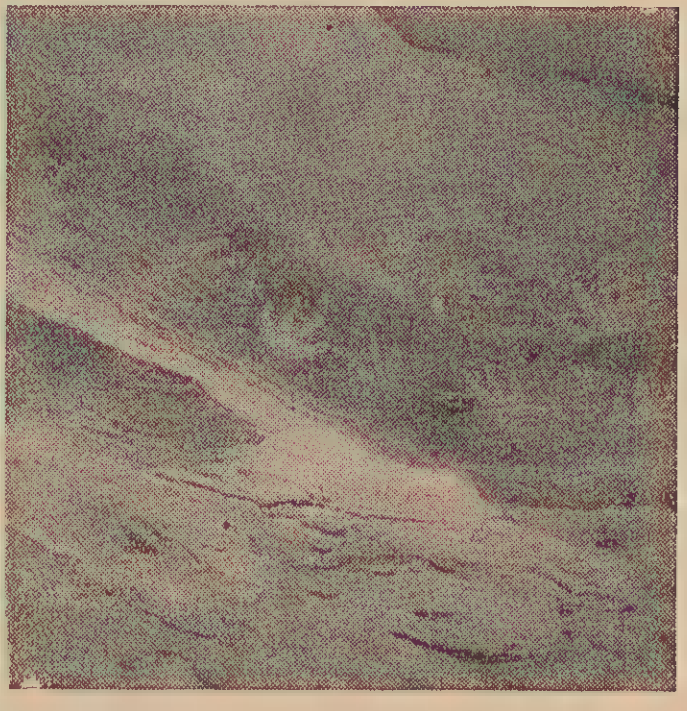
The Journal and Magazine of the North Queensland Naturalists' Club

Vol. XVIII **CAIRNS, 1st MARCH, 1950.** **No. 93**

SANDSTONE RIDGES OF THE ST. GEORGE

(By D. Veivers).

Twenty-three miles past the Palmer and across the Dividing Range along the route of the overland telegraph, the road crosses the St. George River at its confluence with the Little Kennedy. Several miles before the crossing is reached, a long, narrow ridge of bare sandstone can be observed to the left of the line, running parallel with it to the river, and reforming on the opposite side to run off gradually over several miles into low, grassy hills, with outcrops of exposed sandstone.

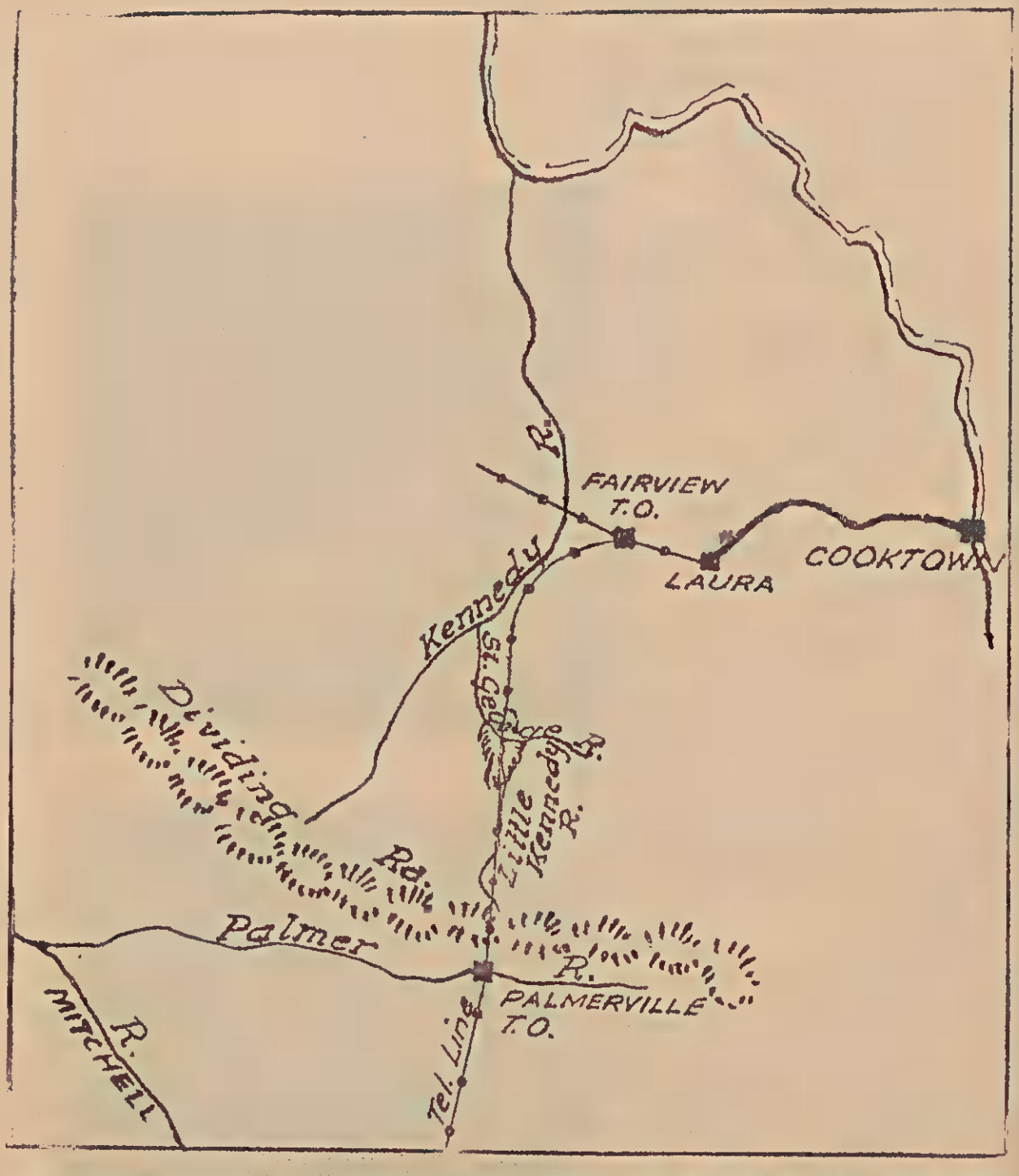


These are the "sandstone ridges of the St. George," where is preserved evidence of the existence of the early aboriginal ...es, who inhabited this region in years past. There the curious shapes and patterns of the sandstone outcrops, eroded by wind and rain, but still displaying in places examples of aboriginal art, are a monument to a race once supreme in this now dead land.

South of the River, the bare sandstone ridge rises abruptly to an elevation of one hundred to one hundred and fifty feet above the level of the surrounding country. Here the cliff face has been eroded by weather, resulting in many places in large overhangs. On these faces can be seen the remains of native stencilling, patterns of hands worked in a red-brown substance, apparently prepared from the dried sap of bloodwood trees To as high as fifteen and twenty feet up the cliff face these designs extend, although in the higher portions the work of wind and rain has accounted for the erasure of many of them.

Below this section, towards the ...er, deep crevices run into and ...ften through the ridge, usually from ...e to three feet wide. Apparently the ridge is the haunt of pigs, wild fowl and wallabies, as their tracks and droppings can be seen both on the summit and at the bottom of the crevices.

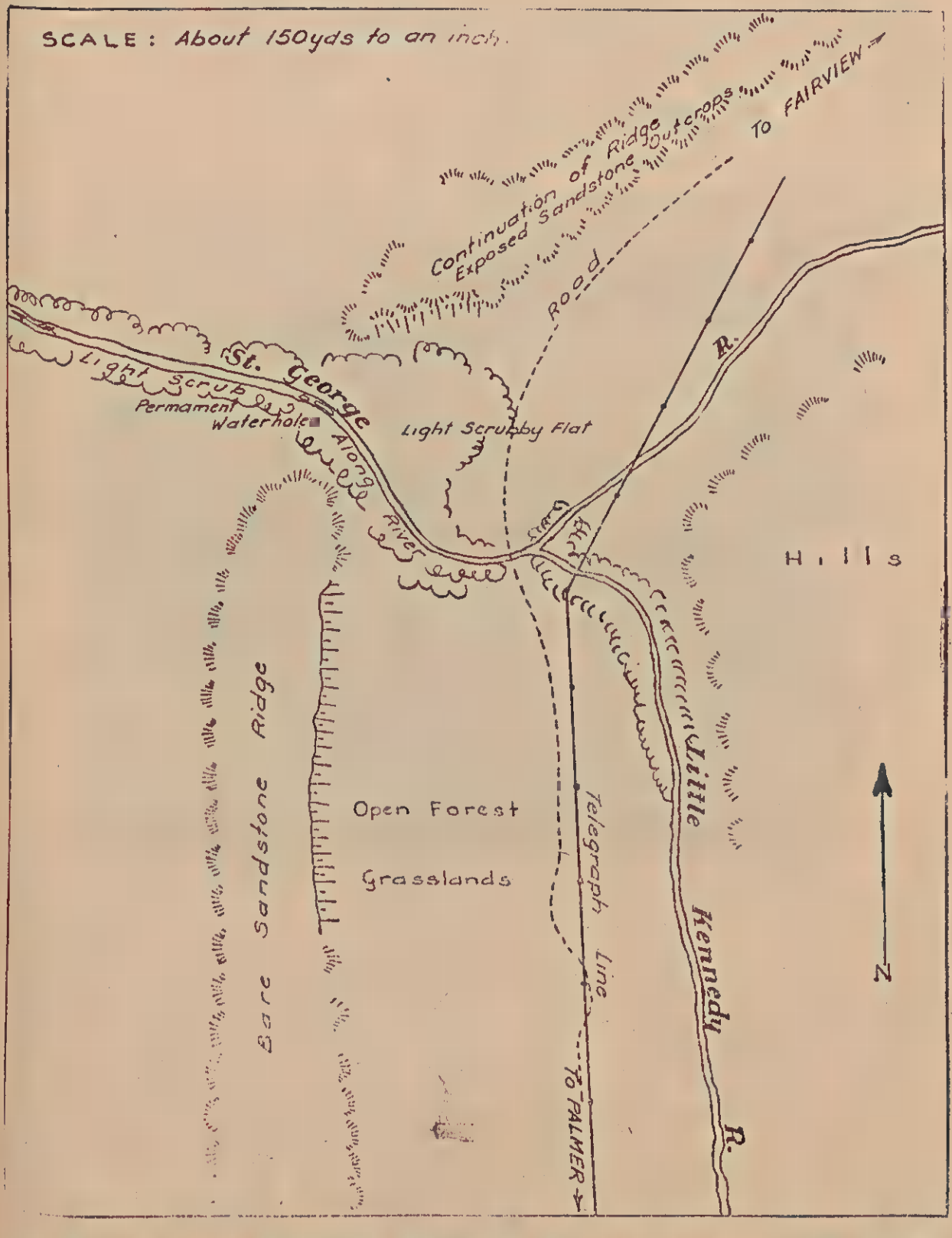
On the north bank of the river the ridge reforms. Here it is mostly a gradual rise to the summit, over grassland with outcrop exposed sandstone. Erosion here too



has played its part, and the result is a curious assembly of mushroom rocks, arches and caverns along the top of the ridge. Here on the faces of rocks and walls of caves, the evidence of native art and stencilling can again be seen. In unexposed places, in caves and sheltered crannies, are the remains of their campfires, often undisturbed.

In the area birdlife is plentiful. Of the many of the more common birds which exist in almost all sections of the Peninsula, by far the most striking is the big "plains" kingfisher, whose attractive blue colour can be picked out anywhere among the trees along the way. The galahs and other parrots of the Peninsula, which occur further South and North, are apparently foreign to this region.

In the scrubby regions several hundred yards downstream from the crossing, brush turkeys abound, not in ones and twos, but in flocks of dozens. Wild, and rapid on their feet, they do not fall easy prey to the hunter. The bower bird also exists in the area, and his skilfully woven playground, decorated with coloured pebbles and chips of rock,



can be seen quite frequently along the river bed. Although not a common bird in the region, the bustard or "plain turkey" may often be seen on the surrounding plains.

Here, too, is the home of wild pigs, their well-worn pads along the river bearing evidence of their numbers. Often they run in herds of thirty to forty, travelling upstream to their camping grounds in the early morning, and returning to the waterholes at dusk. Main item on their diet is the fallen fig from the many fig trees which grow on the bed of the river.

The area is situated in the thirty to forty inch rainfall belt. Although the rivers often rise to a height of thirty feet during the storm period, they flow for perhaps four months only, and dry up, leaving only scat-

tered permanent waterholes.

Today and tomorrow ,this is a dead land, for any hope of its development is a very unreal thing indeed. The centres of its civilisation are being pushed further apart and shortly its insignificant history will be entirely forgotten.

A LARGE GROOVED AXE HEAD

By Keith Kennedy, Curator, Museum Of Music, Townsville

Some of the largest stone axe heads made by the Australian aborigines are to be found on the Tableland of North Queensland, and the examples from the Tully Falls, shown in the illustration, is an exceptionally large specimen of the grooved variety. An idea of its size can be ascertained by comparison with the foot rule in the photograph.

The finder, Mr. J. Campbell, who has kindly presented it to the Townsville Museum of Music, picked it up at the top of the falls after it had been unearthed by a bulldozer, while preliminary work was in progress during 1947 for the Tully Falls Hydro-Electricity Scheme.

The implement is lenticular in section—that is both surfaces are convex, and thin down to an edge at the margin. Its outline is ovate, the broad end being the ground cutting edge. The groove, around which was originally looped the handle, is shallow, averaging about 3 mm., and encircles both surfaces and the top margin, but not the lower margin, and the entire blade has been made by hammer dressing or "pecking," a technique by which the original stone has been shaped by continuous strokes with a hammer stone. A small portion of the butt end has been recently broken off, probably during the excavation, and the cutting edge has been blunted, evidently by use, for the fractures are as patinated as the rest of the blade.

As it has been unearthed by a bulldozer it is unfortunate that data as to how deep it was buried cannot be given.

Measurements are: Length 28 cm.; if the piece broken off at the butt be taken into consideration, the length would be 29 cm., greatest breadth, 22.5 cm.; thickness in centre 2.5 cm. Weight 5 lbs. 12 ozs.

It has been suggested that these large axes were too big for practical use, and might have been made for

(Continued on Page 5)

A LARGE GROOVED AXE HEAD

(Continued from Page 4)

ceremonial purposes, but the worn edge of the above specimen indicates that it had been used for chopping.

In Australia, the aborigines had two methods of hafting. One was to take a pliable length of wood, bend it around the stone head, tie it underneath, then tie or bind the ends which served as the handle. The second method was to use a split stick, between the forks of which was placed the stone head. The ends of the fork were then bound together. In both methods it was usual to add a certain amount of resin or gum, to help the fork or the loop grip the stone.

A groove for hafting stone hammers was employed during the Robenhausian culture of Neolithic Europe, but the axes of that period were not grooved. Instead they were wedged into a slot cut in the wooden handle—a method still in use in parts of Africa for hafting iron axes.

Technically, grooved axe heads are an advance on those without the groove, and according to the theory of the survival of the fittest, should have supplanted the latter. In practice, however, the ungrooved kind has held its own and probably for the reason given to Horne and Aiston (Savage Life in Central Australia, Horne and Aiston, 1924 p. 105) by Urabunna old men that when the aborigine desired to unhaft an axe for the purpose of packing it in a dilly bag for travel, or because the handle had become fractured, a few taps on the butt end would be sufficient to dislodge an ungrooved blade, whereas a grooved head would have to be unbound.

The groove seems to be associated with the "pecking" process ,and it is quite possible that the groove, which had to be pecked out by a hammer stone, suggested the idea of making the entire head by the same process, instead of the flaking techniques used in Palaeolithic times.

NORTH QUEENSLAND NATURALISTS' CLUB

President: Dr. H. Flecker, Abbott St., Cairns.

Hon. Sec.: J. Wyer, "Lochinvar," 103 Sheridan St., Cairns.

Meets at School of Arts, usually on Second Tuesday in each month at 8 p.m.

Next Meeting, Tuesday, 14th March, 1950.

MEETINGS. Annual General: 13th September, 1949. Annual Report by Retiring President, Mr. J. M. Gray.

Election of Officers: President, Dr. H. Flecker, Vice-Presidents, Messrs. J. M. Gray, A. Read,, A. B. Cummings; Hon. Sec., J. Wyer; Hon. Treas., Mrs. A. Read; Assist. Sec. (Organizing) G. Atkinson; Assist. Sec. (Correspondence), Gordon McLoughlin; Additional Members of Committee Messrs J. Courtney, E. F. Tree, D. R. Peinger; Auditor, Mrs. J. M. Gray: Librarian Mrs. Morley; Panel of Specialists: Botanist, Dr. H. Flecker; Mammalogist, G. B. Stephens; Ornithologist Mrs. S. E. Stephens; Herpetologist. S. E. Stephens. Ichthyologist. V. Vlasoff; Conchologist, J. Courtney; Carcinologist A. Read; Coleopterist. J. G. Brooks; Lepidopterist, Gordon McLoughlin; Ethnologist, Behrendorff; Arachnologist, H. O. Barkus: Ethnolgist, Behrendorff; Geologist, G. Atkinson; Astronomer, H. O. Barkus.

11th October, 1949. Address by Mr. Gordon McLoughlin on Butterflies, illustrated by specimens.

9th November, 1949. Address and display of Minerals from North Queensland by Mr. George Atkinson.

13th December, 1949. Lecture "Watsonville," by Mr. D. R. Peiniger.

10th January, 1950. Address on Marine Fauna Responsible for Injuries to Bathers, by Dr. H. Flecker.

14th February, 1950. Address by Mr. H. O. Barkus entitled "Astronomy."

NEW MEMBERS ELECTED. 11th October, 1949, Mr. Walter Schridde, Cairns; Mrs. C. C. Clauson, 309 Lake St. Cairns.

8th November, 1949. Messrs. John Orrell, Forest Avenue, Edge Hill; G. S. Lumley, Sweet Creek, Cook Highway; B. H. Cook. Kuranda Barracks Cairns; J. L. H. Wassell, 16 Winifred St., Clayfield, Miss Marie Jean Winter (Junior Member), Cairns.

10th January, 1950. Messrs. T. Herdman. 122 Grafton St., Cairns: J. Hayward, Iron Range: Robert Rijkers, 203 Severin St., Cairns.

NEXT MEETING: 14th March. 1950.

TOWNSVILLE AND DISTRICT NATURALISTS' CLUB, LECTURES AND FIELD DAYS.

The September lecture was given by the Rev. Norman Cruttwell who spoke on his climb up Mt. Simpson in New Guinea with a party of native carriers and the District Officer. Mt. Simpson reaches an altitude of 9972 feet, and he said that until then, had not been climbed by white men. He told of the various zones of vegetation met with during the ascent from the tropical rain forest with its canopy of tree tops at the base to an alpine heath type near the summit. Photographs and some beautifully coloured botanical drawings made by the speaker were projected on the screen. Exhibits after the lecture were, a black and white ringed snake by Mr. Selvage. and a piece of fossiliferous rock from Shelly Beach and a stone axe head by the President (K. Kennedy).

September Field day was to Mt. St. John Zoo to study the bird life there.

The October lecturer was Mr. A. Perkin who spoke on Mollusca and their shells. He said that people usually associated shells with the sea, but that they were widely distributed both on land and sea, from the polar regions to the tropics, and were found in salt water, fresh water, and on the land; some genera even lived high up on trees. The curve of the spirals of univalve shells he said was on a definite mathematical ratio, and increased in size as the animal grew. Recently it had been proved that the concentric circles on bivalve shells, also a sign of growth, could indicate the age of the mollusca. To illustrate the talk, pictures of shells of various countries were thrown on the screen. In addition to Mr. Perkin's collection there were exhibited specimens by Mr. and Mrs. Brock, Mrs. Freeman and Mr. Kennedy. Mr. Selvage tabled a twig of a tree on which were congregated numerous larval cases of the cup moth (Boratifera vulperans) and Mr. O'Sullivan brought a young plant of the poisonous milky mangrove.

The October Field excursion was to Cape Pallerenda where a party of members climbed almost to the top of Mt. Marlowe to a cave inhabited by insectivorous bats. Two bats were caught and examined and then liberated. The party then went on to Shelly Beach to study marin life.

Life in the Fiji Islands was the title of the November lecture given by Mr. Biddle. He spoke at great length on the means of transport on the Islands; the boats that run between New Zealand and Fiji and between Australia and Fiji. He spoke about the sugar industry, peanut, copra, banana industries and about the dairy farm that has its own butter factory on the farm. He gave some interesting sidelights on the Indian population and spoke of witnessing a fire walking ceremony by members of the Indian fanatics who, after weeks of preparation can run pieces of steel through their flesh and walk through hot embers and yet take no harm. Mr. Biddle illustrated his lecture with a large number of slides which showed all the aspects of Fijian life mentioned in his lecture .

The November field day took the form of a visit to the home of Mr. and Mrs. S. Brock to see Mr. Brock's large collection of Coleoptera.

The December lecture was given by Mr. Biddle on a trip he took up Cape York Peninsula in a waggon drawn by four horses. He told how he and his wife forded rivers, and how they climbed the mountain ranges until they come to the plains on the other side. He mentioned the fact that although the Burdekin Duck is supposed not to settle on water inhabited by crocodiles, he and his wife saw them swimming on the water, and that night they were both kept awake by the saurians bellowing. He spoke about the various ghost towns on the Peninsula and how the houses, shops, etc., have been abandoned, fully furnished and with crockery and pots and pans still standing on the stoves.

The December field day was to 3-Mile Bridge a short distance from Cape Pallerenda where bird and marine life was observed.

Mr. A. W. Daniels gave the lecture for January. He spoke on the experiences in nature study He spoke of the speed and manner of progression of snakes, and said that from his experience they do not attack, but if a person is between them and their place of refuge they do not deviate, which has given rise to stories of their

TOWNSVILLE AND DISTRICT NATURALISTS' CLUB

LECTURES AND FIELD DAYS.

attacking people. Mr. Daniels spoke of the thick rain forest around Mt. Bartle Frere, where he considers there is still an opportunity for naturalists to find strange animals. Here he saw what appeared to be a tailed frog, but could not catch any before leaving the district. He related stories of wedge-tailed eagles, bats and other wild life, and also told of witnessing when amongst the aborigines of a ritual trial, when one of them had to prove himself innocent by defending himself against selected spear throwers. At the end of the meeting the usual discussion took place.

The January field day was to the Townsville Botanical Gardens to study the trees, ferns, etc., growing there .

ELIZABETH KENNEDY.
Hon. Secretary.

ERRATUM:—This Volume is erroneously numbered Volume XVIII. It should be Volume XVII.

The North Queensland Naturalist

The Journal and Magazine of the North Queensland Naturalists' Club

Vol. XVII **CAIRNS, 1st JUNE, 1950.** **No. 94**

Photo by G. Atkinson.

HISTORY OF NORTH QUEENSLAND MUSEUM

By H. Flecker, F.R.G.S.A.

For some fifteen years past, the North Queensland Naturalists' Club has specially interested itself in an effort to secure the establishment of a museum in Cairns. As long ago as 5th July, 1935, the energetic Honorary Secretary of the Field Naturalists' Club of Victoria, Mr. S. F. Colliver in a private letter wrote:—

"We all hope over here that the efforts for the museum are successful; certainly an institution such as this is absolutely essential to make the Reef known. Just recently I went through the museum here, (Melbourne) looking at the odds and ends from the tropics, other than the insects which are well represented and the reptiles, we have very little indeed. And certainly a good museum would be very attractive, and think what a wonderful aquarium could be installed in Cairns! Really everything is at hand to make the place the premier attraction of Australia to both the scientist and to the general public. It is amazing how short-sighted local governments are; when restriction on expenditure is necessary it is always helped by decreasing grants to scientific societies, etc. One of these days they may wake up!"

In fairness to the Cairns City Council, it should be stated that it is wholeheartedly behind the movement to establish a museum, for on November 15th of the same year is the note that the City Council is in earnest in its desire to endeavour to establish in Cairns a National Museum and Art Gallery, and is inquiring concerning the possibility of acquiring the property at present occupied as the Headquarters of the Cairns Shire Council (later the Mulgrave Shire Council) should it vacate these premises. Certainly a more suitable locality for such an institution could scarcely be conceived, being in a quiet part of the city, on the Esplanade, and exceedingly handy to the various hotels and shopping centres, not far from business establishments and in the most favorable position possible for tourists.

Unfortunately at a referendum of the citizens of the Shire, it was decided that the Council Chambers should remain in Cairns and not be removed to Gordonvale, fifteen miles away as was proposed; accordingly the building on the Esplanade could not be made available for museum purposes.

On September 11th, 1936 is the

note: "It appears to be the impression that the museum proposed to be established in Cairns is intended solely for the benefit of its citizens and to the visitors to this city. However, the aim is much more than this for it is hoped to gather specimens for the most part from the whole of North Queensland, that is to say, a museum primarily for the particularly abundant and interesting North Queensland material. Nor is it intended to benefit only the residents of North Queensland, but also the remainder of Queensland, the whole of Australia and even the entire world. For it is of great interest to scientists of all countries to compare their own material with others from all parts, and the North Queensland material is best arranged in the centre of such district, and surely no city is more fitted to collect, store and arrange such a collection than Cairns. It is hoped that in due course the authorities will quite appreciate this fact, for if well arranged and cared for, such a museum will appeal especially to tourists and others from all parts of the world."

It is thus readily seen that the most interesting museum in Australia is possible, and it will add enormously to the attraction for tourists as well as from the educational point of view to residents in North Queensland.

On December 11th, 1936 is the following: "A great step forward has been made by the decision of the Cairns City Council to apply to have the block of land in a central position gazetted a reserve for the purpose of building a museum thereon, and a meeting will be convened shortly to establish a fund to provide means for a building. Meanwhile a temporary storeroom will be erected at Edge Hill for the accommodation, classification and labelling of specimens.

On February 26th, 1937 is the announcement that 'the Cairns City Council had agreed to the cost of the survey of the quarter acre allotment at the corner of Lake and Aplin Streets, Cairns. Doubtless when the survey is completed, the block will be formerly gazetted as a 'reserve for a museum. Meanwhile steps will be taken to inaugurate a fund to enable a building to be erected thereon."

The land referred to above forms at present part of the school grounds of the Cairns Central State School, and the Education Department was quite agreeable to permit of such gazettal provided that access to the museum when functioning would always be available to school children.

On December 3rd, 1937, the North Queensland Naturalists' Club sent out a circular to its own members asking to what extent support might be expected from them, so that some example might be shown before making an organized appeal to all sections of the community by a committee especially elected for that purpose. Meanwhile a temporary storeroom erected by the Cairns City Council is being specially fitted up for the reception of the specimens. As a result of this appeal to its members, the sum of £38/2/6 was promised and it was left to the Committee to make an appeal to all sections of the community throughout North Queensland.

On February 18th, 1938 is the announcement that a Provisional North Queensland Committee had been formed to raise funds for the establishment of a museum, of which His Worship the (then) Mayor of Cairns, Alderman W. A. Collins was appointed Chairman, Mr. R. T. McManus, Vice-Chairman; Mr. J. Wyer, Hon. Secretary and Mr. A. Wilkinson as Treasurer. Plans had been drawn up by Mr. E. R. Orchard for an imposing edifice which was estimated to cost about £9,000 at that time.

Already on May 13th of the same year, an actual start had been made with the fund, and in addition to the money already collected and in hand, a number of bodies have promised to support the movement by further contributions. The land at the corner of Aplin and Lake Street was duly gazetted as a site for the Museum, and the store room at Edge Hill was being used for a Herbarium, and the accumulation of much other material. This storeroom was a substantial timber construction with a concrete floor ,fitted with cupboards and furniture, the entire contents with fittings and furniture being erected and supplied by the Cairns City Council. It was located at the Cairns City Nursery, about three miles out of town, next to the residence of the City Curator the late Mr. Leslie Wright ,in whose care the building was entrusted. A very substantial botanical collection

was formed, being the nucleus of the N. Q. Herbarium and much zoological, mineralogical, ethnological and other material was housed therein.

In September, 1939 war broke out, when about £140 in cash had been collected and the appeal had to be postponed. Shortly afterwards the store room had been commandeered as a depot for Red Cross Stores, thus further hampering operations for which the building had been erected.

Even while the war was still on, on 21st July, 1944 ,amongst the post-war proposals submitted by the Cairns City Council to the co-ordinator General of Public Works for consideration by the National Works Council were the development of a Botanical Reserve at Edge Hill at a cost of £10,000 and a museum to cost £5,000. By this time, the Herbarium collection had accumulated in over 200 boxes approximately 10,000 sheets, all mounted, labelled and classified, representing over 2,100 species native to North Queensland as well as 1.600 from elsewhere.

On a visit to North Queensland, on 17th October, 1944, the eminent naturalist and journalist, Mr. Charles Barrett, F.R.Z.S. expressed his views in no uncertain manner of the necessity for a museum in these parts. "Cairns as a tourist centre should have its own Natural History Museum." He said that he was wholly in accord regarding the necessity for the assembling of such a museum here regardless of cost. It is therefore hoped that when the appropriate time comes much more than the contemplated £4,500 will be made available to accommodate the collection, which will represent one of the most interesting of all fields of natural history.

Whilst the war was still raging, not much could be done, and at the termination of hostilities, a very considerable delay was caused by a change in programme, when it was decided to seek the cooperation of the various services in establishing in Cairns a War Memorial to take the form of a Museum. At the outset, the R.S.S.A.I.L.A. was agreeable to promote the scheme ,and ultimately a meeting was called on 13th February, 1947 to establish a Provisional Committee comprising representatives of about a dozen or more of the leading influential bodies, particularly the Cairns City Council, the Cairns Harbour Board, the Cairns Chamber of Commerce and the R.S.S.A.I.L.A., etc., etc. Mr Gordon Venables of the last mentioned body was appointed first Chairman.

An ambitious proposal for collecting funds with the aid of a paid organiser was made, and ultimately Mr. A. J. McMaster was appoined organiser.

The most useful of these proceedings was the handing over by the Cairns Harbour Board of two large buildings, one of which was to have been occupied by war exhibits, and the other as a general museum, herbarium and library established by the N. Q. Naturalists' Club. These two buildings were in an ideal situation on the Esplanade, facing Anzac Park and were erected by the Royal Australian Navy and together with a large collection of other buildings erected as barracks were given the name of "H.M.A.S. Kuranda." The whole is situated on a considerable area of the foreshore reclaimed by the Cairns Harbour Board immediately before hostilities commenced. Later on, these barracks were occupied as Headquarters of the 17th Line of Communications which served as a base of operations for all units in this area.

All the specimens which had been stored at Edge Hill, as well as the library of the North Queensland Naturalists' Club, which had been previously housed privately were transferred to the new quarters.

However, on the whole, the funds hoped for were not forthcoming and it became evident that the movement was not gaining ground. By 2nd March, 1949 the final meeting lapsed for want of a quorum so that the whole scheme of a War Memorial had to be abandoned. The sum of £145 collected by the Provisional Museum Committee before the war was handed over to this body.

On 22nd September, 1949, at a public meeting of citizens, the North Queensland Museum Committee was duly established, when a committee of nine was elected. This new body was thus authorised to take charge of zoological, mineralogical and ethnological activities hitherto carried out by the members of the N.Q. Naturalists' Club, and thus took over the building, which was formerly part of the "Kuranda Barracks." The N.Q. Herbarium as well as the Library remained in the care of the Naturalists' Club ,and these now occupy two rooms at the northern end

of the buildings. It has been arranged however, that all material collected by the club shall remain the property of the club, and be regarded as being on loan and labelled accordingly. They will at all times be available for any special purpose such as lectures, etc. The sum of £145 noted above has now been handed over to the new Committee.

To assist in the operations of the Museum, the Naturalists' Club has appointed the following honorary specialists:

Ethnologist: Mr. V. D. Behrendorff.
Geologist: Mr. George Atkinson.
Astronomer and Archnologist: Mr. H. R. Barkus.
Lepidopterist: Mr. Gordon McLoughlin.
Coleopterist. Mr. George Brooks. F.R.Ent. S.
Carcinologist: Mr. A. J. Read.
Conchologist: Mr. J. Courtney.
Ichthyologist: Mr. V. Vlasoff.
Herpetolcgist: Mr. S. E. Stephens.
Ornithologist: Mrs. S. E. Stephens.
Mammalogist: Mr. G. B. Stephens.

The above team is at present actively engaged in not only arranging the displays, but also in securing and erecting fittings and show cases.

To the Cairns Harbour Board much credit must be given for the success so far achieved. For many years, its Secretary, the late Mr. T. R. Hall looked after a collection of various specimens, duly shown to visitors as "Publicity Exhibits." This originated at the School of Arts, which body transferred the exhibits to the Harbour Board. Mr. Hall's successor, Mr. J. Wyer has been Honorary Secretary of the N.Q. Naturalists' Club from its inception in 1932, as well as of the two earlier museum committees and nobody has been more zealous in promoting the welfare of this movement. The Chairman, Mr. R. T. McManus and also the Vice-Chairman have also taken a prominent part in the earlier museum committees, whilst the Harbour Board itself has made it possible to occupy the large buildings, now available, free of rent and other charges, such as light, etc., a truly liberal and generous action .

Annual Report North Queensland Naturalists' Club 1948-49

To the Members of the North Queensland Naturalists' Club.
13th September, 1949.

Dear Members,

In presenting the Presidential Report for the year 1948-49, I desire to point out that although the Committee of your Club has had a very busy year and has done much for the welfare of the Club and its Members, the entire ramifications of the Club were not as successful as they might have been.

One factor which was responsible to a degree was our inability to fulfil every Office of the Club, and without a full team of officers, no Club can operate successfully.

The Council was unable to fill the Offices of Assistant Secretary Correspondence, and Assistant Secretary Organising although nominations were called for at almost every general meeting throughout the year.

The lack of an Assistant Secretary Organising of the Club has meant that the field days and other social functions were indeed very limited.

The lack of an Assistant Secretary Correspondence was not so seriously felt, as Dr. Flecker was able to undertake a great part of the work. The amount of correspondence, both inward and outward is voluminous, and Dr. Flecker is highly commended for the great amount of time and exertion in this direction.

18 new members were admitted to the Club during the year, and although several are country members and are unable to attend our General Meetings, I am happy to say that they are most active.

Early in 1949 the Constitution and Rules of the Club were printed and circulated among the Members.

It is with regret I record the illness of our Treasurer, Mrs. Legge. She has been away from Cairns for approximately 6 months and during that time her duties have devolved upon Mr. Wyer.

Our financial position is not as healthy as it was this time last year. Heavy expenditure in publication of Booklets by the Club has reduced our Bank Balance considerably.

Much valuable work has been done throughout the year for the Museum. Several members are de-

serving of high praise for their efforts, but the amount of time expended and work done by Dr. Flecker in the interest of Natural History of North Queensland is astounding and deserves special mention. Special praise also goes to Mr. Read and the two junior members, the McLoughlin boys.

Several Lecturers were present during the year and these included Capt. Frank Hurley, Mr. Krauss, Dr. Selling, Dr. Womersley, Mrs. Morley, Mr. Mackay, Mr. Hollaway.

In conclusion, I desire to extend thanks to those members who assisted throughout the year by their attendance at Meetings and offers of help when called upon. I regret that many offers of co-operation and assistance promised me upon my election as President were not forthcoming, but I do sincerely trust that my successor will be afforded a more wholehearted measure of support, and so make his term of office much more happier than mine has been.

JAMES GRAY,
President.

September, 1949.

Further Notes On The Ooyurka Of North Queensland

By Keith Kennedy, Curator, Museum of Music, Townsville.

Since writing "Two Stone Implements of North Queensland," published in the N.Q. Naturalist, June, 1949, I have recently received further information from Mr. C. Freeman, of Townsville, regarding the implement described as No. 1.

He said that while camped at Culpa Creek in the Culpa land at the back of Tully Falls in 1932, he saw an aborigine named Harry, who had returned to his home country at Culpa after escaping from Palm Island, fitting a wooden handle to an iron axe-head, and using a similar implement to those described and illustrated in the North Queensland Naturalist, to smooth the handle.

On re-examining No. 1, I find that there is a slight but definite concavity from point to point in the base.

This concavity measures two mm. at the centre, and increases in depth if the implement is held at an angle, as it would be when used for rubbing some object. One end of the base has a "nose" chipped on it as if intended for gouging.

No. II is slightly convex in the centre of the base, therefore the ends are raised, but when the implement is held at an angle this convexity disappears and there is a slight concavity.

Mr. Fowler, the finder of the implement has given additional information as to where he found it.

He picked it up near a heap of shells at Dungeness at the mouth of the Herbert River in 1929.

FIGURES DESCRIBE

By the courtesy of the National Museum of Victoria, Melbourne, I have received a copy of the Museum Memoirs, No. IX, 1936, in which ing in the Museum collection and on page 90, D. A. Casey figures and describes four of these interesting artifacts, two of the examples be-

obtained from Mena Creek, North Queensland, one in the Australian Museum, Sydney from Cairns, and one in the Queensland Museum, Brisbane from Innisfail.

That in the Queensland Museum (according to Casey) is labelled Whetstone, native name Ooyurka, used by the Settlement Creek blacks to sharpen tomahawks, etc., and to strip netted fibre of vervain. Pre-

sented to the Museum by Mr. H. Tryon in 1897.

McCarthy Bramell and Noone in Memoir IX, 1946, of the Australian Museum, Sydney, described and illustrated some of these implements, and apply the term Mena to them after Mena Creek, North Queensland.

This name, however, is unwarrantable, as the aboriginal name Ooyurka has priority.

It is also totally unsuitable for Mr. L. B. Williams, Secretary of the North Queensland Development League has kindly passed on to me a letter from Mr. H. A. Noone of Mena, who, in it tells of how the name Mena came into being.

In the old days, the name was Stewart's Creek, and, as there was another Stewart's Creek near Townsville, confusion arose, especially when a letter addressed to a settler was sent to Stewart's Creek Gaol by mistake and was returned marked "unknown here."

Through the efforts of Mr. Noone, the name was therefore changed to Mena Creek after the camp where Australian troops were stationed during World War I.

Mena in Egypa derives its name from a kind of chess played by the ancient Egyptians, so the word is already occupied in archaeological terminology.

Even if it were not, it is unsuitable to name an Australian artifact after a place name in Egypt.

The Director of the Queensland Museum, Brisbane has informed me that there are now three of these uncommon artifacts in the Museum collection, and it has been decided to describe all three in the next issue of the Memoirs of that institution.

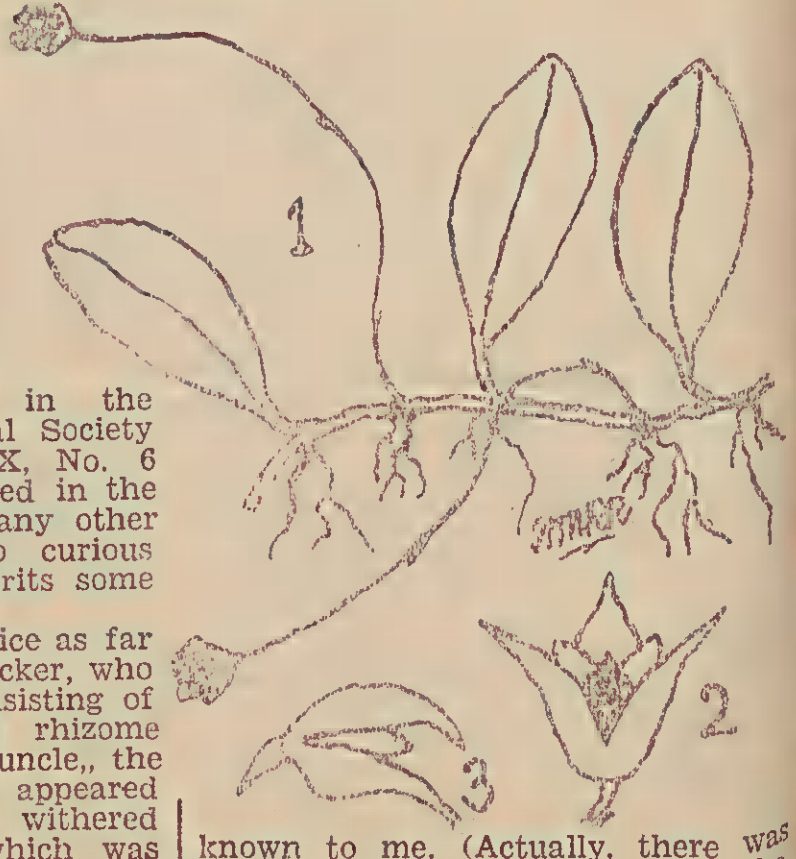
Bulbophyllum Evasum

An Interesting North Queensland Species.

Note by the Rev. H. M. R. Rupp

This appears as a new species in "A Review of the Genus **Bulbophyllum** in Australia," by the above authors, published in the "Transactions of the Royal Society of Queensland," Vol. LX, No. 6 (1949). It is fully described in the text; but it is so unlike any other Australian species, and so curious in appearance, that it merits some additional remarks.

It was brought to my notice as far back as 1936 by Dr. H. Flecker, who sent a small specimen, consisting of a very short portion of rhizome with one leaf and one peduncle,, the latter terminated by what appeared to be a little "head" of withered flowers. This specimen, which was dry when received, came from Zarda—Root's Creek track, Mt. Spurgeon. As it was the only material available, I did not care to risk injuring it by any critical examination, hoping that further specimens might be found. I ventured a guess that it might prove to be an unknown **Thrixspermum**, as the capitate inflorescence somewhat resembled the bud stage of that of **T. album**. For nine years, however, the Zarda specimen remained the only one known to me. (Actually, there was one from Bellenden Ker in the Brisbane Herbarium, collected in 1889 by a collector whose name was not recorded; but this I did not know). In 1945 I received a few



Hunt and Rupp

1. Part of the plant, natural size.
2. Flowers from the front, enlarged.
3. Flowers from the side, enlarged.

specimens without flowers from Mr. W. W. Abell, then living at Gadgarra on the Atherton Tableland. Being confident that these were identical with the Zarda plant, I now ventured to examine the latter more critically. A flower was successfully softened out, and my hypothesis of a **Thrixspermum** vanished. The details fitted **Bulbophyllum** better than anything else; but the absence of pseudobulbs was puzzling. In the following year, specimens were received by Mr. Hunt from Cardwell (Mrs. W. Kirkwood), Bellenden Ker Range (J. H. Wilkie), Chilverton (S. E. Stephens), and Hambledon (A. E. Johnson). These included flowering plants, and some were sent on to me. Meantime I had learnt that some Indian and Malayan species of **Bulbophyllum** were devoid of pseudobulbs. We were now in a position to work out the character of this elusive little orchid, which had evaded identification for well over half a century—in view of which fact we decided to name it **B. evasum.** The Zarda specimen has been retained as the Type, the floral details having been first revealed from it. It is preserved in the National Herbarium of N.S.W. at Sydney.

Anything less like the popular conception of an Orchid than this curious little **Bulbophyllum** can scarcely be imagined, except perhaps the still more curious "subterraneans," **Rhizanthella** and **Cryptanthemis.** It is the only known Australian Bulbophyll with a capitate inflorescence.

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Archaeological Sites—Somerset

Through the courtesy of the Department of the Co-ordinator-General of Public Works the following report is made available; and is dated 13th March, 1950, W. Wynne Williams,

BORA GROUNDS on Portions 15 and 12V, Parish of Bowman, in the District of Hazeldean, about 6 miles South of Kilcoy.

The following data is supplied by Mr. James Walker of Hazeldean, Kilcoy, who came to reside about a mile distant from the BORA GROUNDS when he was 11 years old. Mr. Walker is now 83—which places his first acquaintance with the BORA GROUND as during 1878.

The larger of the two BORA GROUNDS situated in the woodland country near the Stanley River on Portion 15, Parish of Bowman remains in a good state of preservation being a circular structure with raised banks of a diameter of about 66 feet. During the rainy season it has the appearance of a small lagoon, and could be mistaken for such. Its original depth is stated to have been 3 feet 6 inches. A smaller BORA GROUND, about half the size, now obliterated, was situated about half a mile distant within the rain forest of Portion 12V. A track about 4 feet wide, still partly visible, connected the two grounds.

About every three or four years the blacks congregated in the BORA GROUNDS for a space of about two weeks for corroboree—arriving from all directions as far as Bundaberg and Gayndah to the North—until the total muster reached as high as 400. The region was well provided with food in the shape of kangaroos, wallabies, brush turkeys, echidnas, snakes, etc. The Stanley River provided a plentiful supply of fish particularly cod, which was caught with a hand net. The marsupials were mainly fed to the dogs.

The purpose of the BORA GROUNDS, as related by a Station blackfellow, was for marriage ceremonies and initiations to manhood. The intending bridegroom engaged in a race from the small BORA GROUND to the larger one where the eligible ladies were held, the brides being chosen by seniority of place in the race.

During 1898, an Aboriginal Reserve was opened near Woodford on the Durundur Station, and the blacks removed thereto, which ended the corroborees of the Hazeldean grounds.

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BOOK REVIEW

24. TROPICS AND TOPICS. By A. C. C. Lock, 285 pp. 23 photographic illustrations published by Invincible Press, Sydney, etc. Whatever merits this book undoubtedly has from a geographical point of view it is surely disappointing with regard to Natural History. One notes repeated renderings throughout the book of such place names as MacKay (capital K), Stony Creek (Stoney Creek on Cairns-Kuranda Railway), Bellenden Kerr, Selheim, etc., whilst Thornton Park is referred to

by the erroneous local name of Mt. Alexander, and Millstream as Mills' Stream. Mention is made of alligators (none are found in Australia), "termanalia," "loya vines," Kauagi also blue gum but it is not stated to which North Queensland tree this refers. The rain tree is referred to as a species of Glochidion, whilst the "sunbird better known as tailor bird through its habit of sewing leaves together" shows confusion with an Indian bird. Lastly, as has been done by a well known commercial firm, the spelling ti tree for tea tree occurs throughout the book.

Townsville And District Naturalists' Club

Lectures and Field Days.

February Lecture: "Some Queensland Orchids" was the subject of a paper by Mr. C. Freeman which in his absence was read by Mrs. Freeman. **Dendrobium** is probably the largest genus of Orchidaceae and is distributed over a large area as far north as Japan through Southern Asia, the Esat Indies, Western Pacific Islands to New Zealand through Eastern Australia to Tasmania The exact number of species is not known but is considered to be more than 1,000. The number so far recorded from Australia is 55 and amongst them are some of the world's best. The orchids then described were **D. undulatum, D. canaliculatum, D. bigibbum var. phalaenopsis, D. superbiens, D. fuscum, D. smilliae** and **D. tetragonum.**

February Field Day was to Kissing Point but owing to wet weather no observations could be made.

March Lecture. The President, Mr. K. Kennedy spoke on Palms, their morphology and distribution. He spoke first on the two different ways in which plants grow—exogenic (from the outside) and endogenic (from the inside). He mentioned that although a few palms grow in temperate regions they belong to the tropics and give to tropical forests a character which distinguished them from other climates. The speaker went on to show the position of palms in the vegetable kingdom. He then described the various parts commencing from the roots and ending with flowers and seeds and their economic value was gone into. To illustrate the distribution of these graceful trees a series of pictures taken by the lecturer was thrown on to the screen showing palms of the Pacific Islands, Malaya, India, Africa and Australia. Exhibits tabled consisted of articles from various countries made from palms.

March Field Day. Visit to Cape Pallarenda. By the kind permission of the Department of Health, a large party of members and a party of Scouts and Cubs who were guests of the Club, entered and crossed the Quarantine Area and the day was spent in examining marine and botanical life of the Cape.

April Meeting: The April Meeting took the form of a Members' night. Mr. L. R. Black exhibited the skull of a small unidentified mammal which he had dug up in his garden. Duncan Kennedy exhibited some very large mosquitoes of a kind strange to the district. Mr. Keith Kennedy exhibited a Nautilus shell picked up at Cape Pallarenda during the last field expedition. He gave a short talk on Cephalopeds to which Class the Nautilus belongs, and told of their continuous existence from Ordovician period to the present day. A discussion then took place on cuttle fish, marsupial mice and other items of natural history interest.

The April Field Day was to the Town Common.

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NORTH QUEENSLAND NATURALISTS' CLUB

Meets at School of Arts, Lake St., Cairns usually on second Tuesday in each month at 8 p.m.

NEXT MEETING: Tuesday, 13th June, 1950.

MEETINGS: 14th March, 1950. Demonstration and Exhibition of Mosses from the Netherlands, by W. Rijkers.

11th April, 1950. Address on Mosquitos by Mr. T. Briggs.

9th May, 1950. Exhibition of some British fossils by Mr. A. Crawfoot.

Demonstration of Seismograph by Mr. Crawfoot.

Organisation of C.S.I.R.O., by Miss E. Archer.

NEW MEMBERS ELECTED. 9th May, 1950. Messrs. C. D. Andrew, Miallo; Noel Krauss, 2437 Parker Place, Honolulu 5, Hawaii; E. H. Toogood, Earlville; Alvis Muggler, 53 Sheridan Street, Cairns and (Junior Member) John Brophy, 52 Digger Street, Cairns.

EXCURSION: Sunday, 23rd April, Gordon Creek.

NEXT MEETING: Tuesday, June 13th. Address by D. A. O'Brien, Secretary of Royal Geographical Society of Australasia (Q. Branch).

The North Queensland Naturalist

The Journal and Magazine of the North Queensland Naturalists' Club

Vol. XVIII. SEPTEMBER 1st, 1950. No. 95

The Golden Bronze Cuckoo

Lamprococcyx plagsus (Latham)

By John McLoughlin

This interesting bird is found in most parts of Australia, in Tasmania and in the Pacific Islands. It is about six inches in length and has a bill characteristic of that of a honey-eater. It has a green back, the green merging into a dark brown near the tail. The wings are green, and the head a light brown. The breast and stomach are creamy white, and are crossed with bars of light or dark brown. It feeds mainly on insects and their larvae. It is seen mostly singly or in pairs, although on two occasions, while studying this bird, I have seen three together. Upon further examination, I noticed that on each occasion there were two males and one female. The recorded foster parents number sixty. I have noticed that in Cairns, the chief bird to which the cuckoos leave the rearing of their progeny is the Northern Warbler, Gerygone mouki. This little bird generally builds its nest overhanging water. It is dome shaped with a hooded entrance and a long tail. Before the female cuckoo lays her egg, the male flies close to the nest, thus attracting the attention of both warblers. They at once give chase, and try to drive him away. When the male cuckoo has led the two birds some distance from the nest, the female cuckoo then flies quietly to the nest, kicks one of the warbler's eggs out and deposits her own deep bronze coloured egg. She then makes a hasty departure, and joins her mate. The warblers return and are ignorant of the strange egg in the nest. If the egg of the Golden Bronze Cuckoo is lightly rubbed with a damp cloth, the bronze colour will rub off, disclosing a pale green shell. When the young cuckoo hatches, it is generally too cramped with the other two smaller birds alongside so it ends up by kicking them out of the nest.

Book Review

25. **FISHING ON THE BARRIER REEF AND INSHORE**, by Geo. Coates, 71 pp., 4 plates, 1 coloured, and many figures, T. Willmett and Sons (Pty.) Ltd., Townsville. The author is to be congratulated on this excellent work. The title might have been improved by the appellation Great Barrier Reef. All the various fish are beautifully figured, some in colour, and in every case, the biological name is inserted. The correct vernacular names are prominently displayed and the local name added in a less conspicuous position. Maps of the Great Barrier reef as a whole, as well as those of the Cairns, Townsville and other areas are added. The Thread Fin Sea Perch, also locally known as Chinaman Fish is no longer placed on the poisonous list, and official sanction for this appears to be given, as the legal size is now quoted as 12 inches. Some doubt is also expressed as to the poisonous propensities of Coates' Sea Perch, and here again the "legal size" is given. Many useful notes are given of the various fish, and of fishing in general. This volume is surely the most useful and handy yet published dealing with fishing in these waters.

North Queensland Naturalists' Club

Meets at School of Arts, Lake Street, Cairns usually on second Tuesday in each month at 8 p.m.

Next Meeting: Annual General Meeting: Presentation of Annual Report and Balance Sheet; Election of Officers.

MEETINGS: 12th July, 1950. Cine-film, Life History of Cosconoscera hercules, by K. Bolton.

8th August, 1950. Customs of Natives of New Guinea, by A. F Lannoy.

Report on Coleoptera for Year 1949-1950.

By J. G. Brooks, B.D.Sc., F.R.E.S., Hon. Coleopterist to N.Q. Naturalists' Cl

The excessively wet season experienced during the period under review eliminated some of the best of the "collecting season." Areas worked by me for specimens have been Cairns, Kuranda, Mareeba, Danbulla, Longland's Gap, Herberton, Julatten, Edmonton, Little Mulgrave, Babinda, and Eubenangee. A number of trips were successful and resulted in numbers of new species being obtained whilst others were poor. A number of specimens have been brought in by Dr. Flecker and Mr. S. E. Stephens. Identifications ha been received from the Briti Museum, Australian Museum (Sy ney) and the National Museum (Vi toria). A number of professional a amateur entomologists have visit Cairns and district during the ye Those who have been taken on ou ings have included Messrs. Al Burns, B.Sc. (Melbourne), Chas. O (Melbourne), Frank Angel (Adelaide Jack Macqueen (Millmerran, Queensland), and A. E. Brook (Auckland, N.Z.)

North Queensland Naturalists' Club

List of Members

HONARARY MEMBERS:

Harding, Miss M., Technical College, Broken Hill, N.S.W.

Nicholls, W. H., 33 Ballarat Rd., Footscray, W11, Victoria.

Rupp, Rev. H. M. R., 24 Kameruka Rd., Northbridge, N.S.W.

Thomas, H. F., care Hartley and Ford Pty. Ltd., Langtree Avenue, Mildura, Victoria.

Whibley, D., Stirling W., South Australia.

MEMBERS:

Abell, W. W., Durong, Kingaroy Line, S.Q.

Adams, J., Chillagoe.

Andrews, C. D., Miallo, via Mossman.

Archibald, Mrs. L. H., Friend St., Edge Hill, via Cairns.

Atkinson, G., Box 257, Cairns.

Baker, C J., 229 Abbott Street, Cairns.

Balfe, B. O., Herberton.

Barkus, H. O., Mayers St., Edge Hill, via Cairns.

Barkus, Mrs. H. O., Mayers St., Edge Nill, via Cairns.

Barkus, J., Walsh St., Edge Hill, via Cairns.

Barkus, Mrs. J., Walsh Street, Edge Hill, via Cairns.

Barnes, S. J. 26 Abbott St., Cairns.

Behrendorff, V. D. 195 Bunda St., Cairns.

Binstead, G. E., Australian Museum, College St., Sydney, N.S.W.

Black, R. L., Box 10, Leeton, N.S.W.

Brodziak, Mrs. E. M., Palace Hotel, Lake St., Cairns.

Brooks, J. G., Fleming St., Edge Hill, via Cairns.

Brophy, J. (Junior), 52 Digger S Cairns.

Bryan, Miss M., 49 Rochdale A Annerley, S3, Brisbane.

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Burns, H., Miles St., Enmo Estate, Cairns.

Cadlolo, C., 266 Grafton St., Cairn

Cantrill. C., Box 928, Cairns.

Cantrill, Mrs., Box 928, Cairns.

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Carr, T., Molloy.

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Coleman, H. W. Yungaburra.

Cook, B. H., Kuranda Barrack Cairns.

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Courtney, W. L., Miles St., Enmo Estate, via Cairns.

Crommelin, Miss M. J., Crommel Biological Station, Pearl Beach, Woy Woy, N.S.W.

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Crust, Mrs. R. H., 121 Grafton S Cairns.

Cummings, A. B., 257 Esplanad Cairns.

Dalziel, Mrs., Atherton.

Dann, H. E., Shields St., Cairns.

Dean, S., Court House, Cairns.

Devanny, Jean., Arcadia, Magnet Island, via Townsville.

Dickson, J., C.O.D. Canner Northgate, Brisbane.

Dougherty, H. R., C. M. Wat Board, City Council, Cairns.

Elliott, C. W., Commonwealt Employment Service, Atherton.

List of Members (Continued)

Elliott, T W., Commonwealth Employment Service, Innisfail.
Ellis, Dr. G. N., Mary St., Charters Towers.
Favell, Mrs. S., 219 Esplanade. Cairns.
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Fielding, A., Tully Falls.
Finckh, Dr. G., 13 Wharf Rd., Snail's Bay, Sydney.
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Flecker, Dr. P. O., Base Hospital, Mareeba.
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Gray, J. M., Box 881, Cairns.
Gray, Mrs. J. M., Box 881, Cairns.
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Hunt, R. A., State School, Texas, S.Q.
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Hunter, R. L., Barron Waters, via Redlynch.
Hunter, Mrs. R. L., Barron Waters, via Redlynch.
Irvin, Mrs. F. J., Box 916, Cairns.
Irvin, Miss H., Box 916, Cairns.
Irvine, J. A. Hambledon, Mill, Hambledon.
Jezard, L. H., Proserpine.
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Keough, L., Kaban.
Killoran, J., Friend St., Edge Hill, via Cairns.
Killoran, Mrs. J. Friend St., Edge Hill, via Cairns.
Kirkwood, W , Sheridan St., Cairns.
Kirkwood, Mrs. Sheridan St., Cairns.
Knott, Dr. C. H., Abbott St., Cairns.
Knudsen, C., Abbott St., Cairns.
Krauss, N.L H., 2437 Parker Place, Honolulu 5, Hawaii.
Leask, M. F., 15 Rowe St., Ballarat, Victoria.
Ledward, C. P. Dr., Burleigh Heads.
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Le Rossignol, R., Strasbourg St., Rosanna, Victoria.
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McGregor, N., 196 Sheridan St., Cairns
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McLoughlin, John (Junior), Pease St., Edge Hill.
McLoughlin, R. W., Pease St., Edge Hill.
McPherson, K., Strathdickie North, via Proserpine.
Martin, C. G., Green Island, via Cairns.
Maxwell, A., s.s. "Cape Leeuwin," Commonwealth Lighthouse Service, Q.
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Muggler, Alvis, 53 Sheridan St., Cairns.
Nankivell, Mrs. J., Anderson St., Cairns.
O'Cavanagh, T., Mt. Peter, via Edmonton.
O'Cavanagh, T., Mt. Peter, via Edmonton.
O'Rourke, Miss M., 157 Lake St., Cairns.
Orrell, J., Forest Avenue, Edge Hill.
Parker, Miss I., State High School, Cairns.

List of Members (Continued)

Farlett, S. H., Herberton.

Peiniger, 14 Edward St., Cairns.

Pittard, H., Corner Shop, Shields St., Cairns.

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Price, Beryl L., Miss, 126 Buchan St, Bungalow.

Price, Mrs. C. L., 126 Buchan St., Bungalow.

Priest, E. W., Box 138 Kempsey, N.S.W.

Read, A. A., 57 Grove St., Cairns.

Read, Mrs. A. A. Grove St., Cairns.

Read, Hugh, (Junior), 57 Grove St., Cairns.

Reddan, P. N., 10 Cairns St., Cairns.

Rees, Lake St., Cairns.

Rijkers, R., 203 Severin St., Cairns.

Rijkers, W., 203 Severin St., Cairns.

Rixon, David (Junior), Severin and Minnie Streets, Cairns.

Sanders, C. H., Care Don Savage, Cooktown.

Seaton, D., 453 Draper St., Cairns.

Seaton, Mrs. D., 453 Draper St., Cairns.

Shaw, A. J.,Lake and Shields Sts., Cairns.

Shipway, Bruce, The Hatchery, Pemberton, West Australia.

Sides, Mrs. J. A. L., Julatten.

Smart, W. A., Main Rd., Earlville, Cairns (Junior).

Smyth, R. M., 91 Esplanade, Cairns.

Sparvell, Mrs., Woolkoo, Euramo.

Stack, E G, 157 Lake St., Cairns.

Stack, Mrs. E. G., 157 Lake St., Cairns.

Stapleton J., 185 McLeod St., Cairns.

Stephens, G. B., McCormack St., Edge Hill, Cairns.

Stephens, S. E., Dept. of Agriculture, Cairns.

Stephens. Mrs. S. E., Friend St., Edge Hill.

Storr, G. W., 22 Commercial Rd., Hyde Park, South Australia.

Sullivan, Capt. H. S., Harbour Master. Cairns.

Thurston, H. R., Box 89, Mareeba.

Toogood, B. H., Earlville, Cairns.

Tulk, P. A., Care Gutteridge, Haskins and Davey, Brisbane.

Tulk, Mrs. P. A., Care Gutteridge, Haskins and Davey, Brisbane.

Veivers, D., 10 Digger St., Cairns.

Veivers, A. R., Myola.

Wassell, J. L., Winifred St., Clayfield, Brisbane.

Watkins, A., "Carlton," Esplanade, Cairns.

Webb, Mrs. T. F., Box 76, Cairns.

Whaling, D. J. (Junior), Buchan St., Cairns.

Whibley, H., 77 Lake St., Cairns.

Whibley, Mrs. H., Lake St., Cairns.

White, S. R., Carey and Election Sts., Busselton, W.A.

Whitley, G. P., Australian Museum, Sydney, N.S.W.

Wilkie, J. H., Off Munro St., Babinda.

Willats, S. W., Malanda.

Winter, Miss M. J., 288 Sheridan St., Cairns.

Williams, R. B., Regional Electricity Board, Townsville.

Withers, Dr. R. M., Care A. H. Heech, 65 Robinson St., Dandenong, Victoria.

Woodlands, J. H., Box 289H, Adelaide, South Australia.

Wyer, J., Harbour Board, Cairns.

Wyer Mrs. J. 253 Sheridan St. Cairns.

Townsville and District Naturalists' Club
Lectures and Field Days

The May lecturer was Mr. K. M. Grant of the Department of Agriculture and Stock, Townsville, who spoke on Tixic Plants of North Queensland. He dealt with the various kinds of vegetable poisons harmful to stock, explaining that the chief vegetable poisons are alkaloids, which include strychnine and were extremely difficult to identify, also glucosides, prussic acid and saponins, the latter embracinig the largest group of poison plants in the north. Many plants are poisonous in the juvenile stage, although harmless when mature, for example the macadam nut (Macadamia). Lantana is also poisonous and when cattle run in Lantana country they shun it, but when brought from a district free of this shrub, they eat it with fatal results. He spoke of the high content of prussic acid in the wild passion fruit, Passiflora foetida, which grows plentifully about Townsville; also of the different species of Crotalaria, the so called Rattle Pod. Many dried and mounted specimens of harmful plants were exhibited and their properties described by the lecturer.

The May Field Day was to Picnic Bay, Magnetic Island where bird and plant life were studied .

The lecturer for June was Mr. H. Strauss, who stated that very few people were expert at judging the value of precious stones, such as diamond, ruby, emerald and sapphire. Many of the semiprecious stones were of little worth in their raw state, the ultimate value lay in the cutting and workmanship in the setting. Descriptions of their chemistry and the methods of cutting were explained, including the difficulty in cleaving the celebrated Cullinan diamond by means of a process known as feather wedging.

The June outing was planned to Town Common and was cancelled owing to bad weather.

The July meeting took the form of a members' night. Mr. Kennedy exhibited the porcupine fish, sometimes mistaken for the stone fish on account of its spines. A list of birds noted in the Townsville district by Miss Hopkins during May and June was read by Mrs. E. Kennedy. Mr Selvage showed a number of small animal skulls from Stuart and a large fungus. Mrs. C. Freeman brought a large cactus, and Mr. C Freeman some orchids, mineral specimens and fossils. Pictures of various kinds of fish and cactus plants were shown on the screen by the epidiascope, and many talks and discussions made the evening a cultural success.

The July field day was to Kissing Point.

The August Lecturer was Mr. J. J. Selvage was entitled Reptiles of the Stuart Creek district. After defining what was a reptile, Mr. Selvage described and spoke of the habits of various species found in the Stuart Creek District. He then described lizards he had observed and explained the difference between them and snakes. Specimens of snakes and lizards in bottles were exhibited and sketches and drawings of heads and fangs projected on to the screen.

The August Field Day was to Palin's Weir on Ross River.

North Queensland Naturalists' Club
Annual Report For Year 1949-1950

By H. Flecker, F.R.G.S.A.

I have much pleasure in presenting the Annual Report of the N.Q. Naturalists' Club, 1949-50, which has now completed eighteen years of its existence.

Unlike the preceding year, a full team of officers, as set down by the revised By-Laws and Regulations was appointed and it is a pleasure to record that the whole team has worked together harmoniously in every respect for the advancement of the welfare of the Club and to my fellow-officers I extend my thanks for their hearty co-operation.

One of the earliest moves of the year was the establishment at a public meeting, convened at the request of this club by his Worship the Mayor of Cairns, Alderman W. H. Murchison, of the North Queensland Museum. For many years almost from its inception, this club has striven hard for the establishment of this by public propaganda, the collection of much material, botanical, zoological, mineralogical and anthropological which was housed in a special building erected for that purpose by the Cairns City Council .All these have now been moved into two commodious huts, acquired by the Cairns Harbour Board from the Army Disposals authorities at Kuranda Barracks, and very generously made available by that body for the purposes of the museum. It is with much regret, however, that I have to report that although the vast majority of the exhibits was acquired by this club, together with over £140 collected mostly by the club have now passed out of its hands. However, it has been arranged that all the material collected by the club shall be indicated as being on loan. It is ,indeed gratifying to learn that the museum is so well established, and that the years of energy put into this project has finally realised in large part its objective. The North Queensland Herbarium as well as the library of the club, housed in the same building is still controlled by this club.

Meetings have been regularly held and some interesting lectures have been delivered. These have been varied and interesting and were given by Mr. Gordon McLoughlin on Butterflies, illustrated by specimens; Minerals from North Queensland by Mr. Geo. Atkinson; Watsonville by Mr. D. R. Peiniger, Marine Fauna Responsible for Injuries to Bathers by Dr. H. Flecker; Astronomy by Mr. H. O. Barkus; Mosses from the Netherlands illustrated by specimens by W. Rijkers; The Activities of the C.S.I.R.O. Library by its Librarian Miss E. Archer; The Operation and Demonstration of the Seismograph by Mr. A. Crawfoot, Sound Film of Life History of Coscinoscera hercules by Mr. K. Bolton and Customs of Natives of New Guinea by Mr. A. Lannoy, and Mr. Briggs on Anopheline Mosquitoes and Malaria.

Field Excursions were seriously limited owing to the excessive and prolonged wet season. Again and again meetings had to be abandoned owing to the inclement weather. Paucity of transport constitutes another handicap; nevertheless many private expeditions were arranged during the year by club members. One club excursion was held to Gordon Creek, at no considerable distance from Cairns.

The North Queensland Naturalist still appears quarterly, but in the anxiety to conserve the slender fund no further publication since the List of Birds Occurring in North Queensland has appeared. Current Natural Topics still appear in the Sunday Australian supplying information concerning natural history.

The Herbarium still continues to function, and apart from many North Queensland plants, collections from Sweden and from America have been added.

I feel confident, in conclusion that my successors will receive from the Council the same hearty support that I have received and that his term of office will be productive of much useful work.

The North Queensland Naturalist

The Journal and Magazine of the North Queensland Naturalists' Club

Vol. XIX MARCH 1st, 1951. No. 96

Mr. J. Wyer.

J. WYER—Secretary of the Club since its inception, it came as a surprise to many of the guests at a recent "Nats" function to hear Mr. Wyer say, unashamedly, "I am not a Naturalist." Perhaps that is the greatest tribute ever paid to the Secretary, unwittingly, by himself!

Inspired by the ideals of the Club, firmly believing as all Club members do, that the "Nats" is for the ultimate benefit of the very land we live in, our Secretary has given of his wide executive and administrative experience to benefit the organisation through the past eighteen years.

In 1932 when the Cairns and Tableland Publicity Association (later known as the Cairns and District Tourist Development Association) was the local body endeavouring to convince Australia that the North was really a tropic wonderland, Mr. Wyer came in contact with Dr. H. Flecker, and "Doc's" enthusiasm regarding the possibilities of a Naturalists' Club inspired him to become associated with the venture. The Club's success and world-wide recognition are largely due to his businesslike approach to problems which, to the Naturalist pure-and-simple, would appear insurmountable.

"Not a Naturalist"—our Secretary brought to the service of the Club his experience as chief executive officer of the Cairns Harbour Board—one of the few Harbour Boards in Australia to maintain an active interest in Tourist Development.

A leading citizen of the town, he is an authority on the early history of Cairns because as he says, "I have lived and grown with the city." Always actively associated with any body honestly working for the betterment of the city, he is a member of the Cairns Chamber of Commerce, the Cairns War Memorial Committee, and the North Queensland Museum Committee.

To his personal knowledge of the district, his sympathetic approach to its problems, and his far-sightedness when surveying the future in prospect, the Club owes much of its success today.

HUGO FLECKER M.B., Ch.M., F.R.C.S. (Edin.), B.A.R., F.F.R., D.R., F.R.G.S.A.—It was said of a retiring headmaster of a famous English Public School that even though his academic achievements were of the highest, his scholastic record most outstanding, and his opinion on the British educational system the accepted authority, yet these paled into insignificance beside the highest honour his students could confer. **Throughout his thirty years' association with the School he had always borne an affectionate nickname.**

And so it is with our Past President. Universities have honoured him, Royal Societies have been pleased to confer their Fellowships, international authorities have looked to him for a final opinion on points of dispute in his chosen field of Radiology, but to the "Nats" he will always be—"Doc."

Possessed of that gift of almost ingenious simplicity which marks the truly great, his single-mindedness over his eighteen years' association with the Club has been the rock on which the whole structure has been built.

When the Club was founded in 1932, it was "Doc" who associated with our present Secretary in guiding the puling infant through its

first irregular steps. From a local body the fame of the "Cairns Nats" spread throughout the land--and overseas. In a few years it became the accepted authority on all matters appertaining to the Natural History of North Queensland. Membership extended to all Australian States—to Hawaii, and to New Zealand. Perhaps the only place where the fame of the Club was not fully appreciated was the city of its origin.

Dr. H. Flecker.

And behind each extension of interest, each widening of scope, was the quiet suggestions of "Doc." In a store-room at the City Council nurseries at Edge Hill, the beginnings of a museum were collected, and in conjunction with the museum, an herbarium. These were later to be housed in their present location at the "Kuranda" barracks on the Esplanade. Moving spirit behind the museum was "Doc." and his untiring efforts in the field and from a purely collector's viewpoint have resulted in the Club herbarium being the most complete collection of tropical plants north of the metropolis. Even today when ill-health has prevented his active participation in field work he may be found on each Saturday afternoon amongst his beloved specimens, classifying, examining and noting. Unostentatiously, and with a persistence which never fails to amaze the initiates who appreciate the full extent of his self-imposed task, "Doc" continues his classifications, unselfishly working in order that those who follow after may have the benefit of his unequalled knowledge.

"The North Queensland Naturalist," the quarterly publication of the Club, was his brain-child. Due to health reasons he had, some months ago, to relinquish the major portion of his active Club work and also his journalistic work in connection with the magazine. It is without his knowledge, but actuated by a desire to see the Club's founder and most beloved member duly appreciated that this small tribute is paid.

Long may you be spared to guide and advise us—"Doc."

Mt. St. John Sanctuary

(By Keith Kennedy, Museum of Music, Townsville)

Sixty years ago Mrs. Catherine Robinson bought 3,000 acres of grazing and swamp land 4½ miles from Townsville and adjacent to the Town Common. She was the third white woman to settle in Townsville, and in those days there was real pioneering to be done. On the land were two lagoons separated by a hill which was called Mt. St. John after her son who now owns the property. The hill is of interest from a geological aspect for it is a residual—part of the worn down remains of the ancient and much higher land surface of which, Mounts Louisa Marlowe, Cutheringa, Stewart and Elliot were part.

Mr. St. John Robinson has always been interested in native animal life and in 1930, at his request, the Government declared the area a sanctuary, thereby creating the largest privately owned wild life refuge in Australia. During the dry season, however, the lagoons used to dry up completely, so at considerable expense Mr. Robinson erected a large dam at the outlet of each, which converted the lagoons into lakes holding water throughout the year, and so providing a permanent home for multitudes of birds that otherwise would have had to migrate in search of water holes.

Every species of duck known in the North now live there, and the Magpie geese (Anseranas semipalmata) formerly rare in the district, now amount to thousands. Other birds which have taken advantage of the protection afforded

Feeding Time at Mt. St. John Crocodile Sanctuary.

by the sanctuary are Jaibarus (Xenorhynchus asiaticus) Brolgas (Megalornis rubicundus) Herons—several species. Pelican (Pelecanus conspicillatus), Swamp Hens (Porphyrio melanctua), Masked Plover (Lobibyx miles) and the quaint Lotus bird (Irediparra gallinacea). These and other birds form a reservoir from which the Town Common and other parts of the Townsville district receive the overflow. They are fully protected for, unlike Government sanctuaries which are inadequately policed, St. John sanctuary has a full time caretaker who patrols the area and is especially vigilant on moonlight nights.

The birds know that they are protected for, as soon as the yearly shooting season opens at the end of June, flocks of them make for the sanctuary and remain there. They also know that the numerous visitors to the zoo and sanctuary will not harm them, so are comparatively tame and act entirely differently to what they do in unprotected areas.

Looking at the dense swarms of birds one would think that there would be a food problem, but they seem to be able to gather enough for their wants. The rhijome of Nymphaea gigantea, and bulgoo nuts—the tuber of a species of rush—form their main vegetable diet.

The zoo itself is at the foot of the hill and contains not only Australian but animals from other lands. However, the pride of the sanctuary are the crocodiles (crocodilus porosus) which are Mr. Robinson's specialty. Crocodiles rarely breed in captivity, but these nest regularly every wet season and exact accounts of their habits have been recorded in Mr. Robinson's diary and published in scientific journals.

North Queensland Naturalists' Club

It was with much regret that the Club had to abandon the December issue of the Journal, owing to the grave illness of Doctor Flecker. At the time when the articles, reports and general "copy" which constitute our quarterly were due for the printer, "Doc's" health was a matter of deep concern for all Club members, and as he has, over the past years, handled the "Journal" publication almost exclusively, it was considered in the best interests of the high standard set by previous issues to let a number lapse rather than lower that standard. It has taken some little time to become familiar with the routine connected with the magazin'e publication, but the Club is doubly happy to be able to go into

print again, and have the "Doc" still with us to give the benefit of his knowledge and experience.

The Election of Officers at the September meeting resulted in Mr. A. Read being elected President, with Dr. Flecker, Messrs J. Gray and D. Cummings Vice-Presidents. Mr. J. Wyer again assumed the onerous duties of Secretary, and will be ably assisted by Mr. H. Burns (Asst. Secretary-Organiser) and Mr. Gordon McLaughlin (Asst. Secretary-Correspondence). Mrs. A. Read will guard the finances as Treasurer, and the Committee elected comprises Messrs Courtney, Toogood, and Peiniger. A hard-working, proven team, and all look forward to a progressive year for the Club.

The unexpected "early wet" curtailed the Club's Field activities, and a proposed visit to Brown's Bay was only accomplished at the second attempt. At the first call, sixteen stout-hearted members assembled at the wharf at 7.30 a.m. and watched the "wet North" live up to its name for two hours before postponing the trip for a fortnight. It speaks volumes for the interest shown by members when so many will turn out in inclement weather to attend field functions.

Cliff Cantell excelled himself on February 13th when he gave a talk on "The Origin of the Earth." So ably did he handle his subject that it is still hard to decide which created the greatest interest—the masterly handling of the talk itself, or the facile and accurate way in which the lecturer answered the questions which were showered on him at the conclusion of his address. The meeting closed at quite a late hour, but none felt that the time had passed slowly—a tribute to the lecturer's ease of delivery and aptitude for holding his audience.

Highlight of the half-year's activities was the Christmas party held at the President's residence on December 15th. Almost a hundred guests enjoyed the films, games and liberal table provided by the Ladies of the Club, and the subsequent presentation of travelling cases and rugs to Dr. Flecker and Mr. J. Wyer in appreciation of their long association and unselfish services to the Naturalists, brought the evening to an unexpected climax for the two recipients.

This party was fully reported in the daily press, but one cannot let this occasion pass without quoting a passage from the address in reply of Mr. J. Wyer who said "Men have been knighted for doing less for Australia than Dr. Flecker has done for North Queensland."

This statement, made in all sincerity by one to whom the Club owes a debt of deep gratitude, was echoed in the hearts of all present.

With "Doc" back in harness (albeit —light harness) and Mr. Wyer retaining the secretariat, the Club looks confidently forward to a most successful quarter. The civic programme for 1951, which includes the official celebration of Cairns' 75th anniversary, will give opportunities for many functions, and it is felt that the members owe it to the sterling example of such men as Dr. Flecker and Mr. Wyer to see that the Club, like Australia—ADVANCES.

Townsville And District Naturalists' Club
Lectures And Field Days

The Club meets on the first Friday of each month in the Adult Education Centre Lecture Room.

President, Mr. K. Kennedy, Esplanade and Rose Streets, Kissing Point, Townsville.

Hon. Secretary, Elizabeth Kennedy, P.O. Box 178, Townsville.

SEPTEMBER MEETING— After the election of officers the meeting took the form of a members night.

The following officers were elected: Patron, Mr. F. H. Brazier President, Mr. Keith Kennedy; Vice-Presidents, Mr. H. Strauss and Mr. A. Perkin; Hon. Treasurer, Mr. J. Pepham; Hon. Auditor, Mr. Sleigh; Hon. Secretary and Librarian, Mrs. E. Kennedy; Committee, Mr. L. R. Black, Mr. J. J. Selvage, Mr. R. Sleigh, Mr. S. Breck, Mrs. E. Maloney, Miss N. Hopkins.

Miss N. Hopkins then gave a talk on bird observations during the month of August, which was illustrated by pictures on the screen. Mr. Kennedy spoke on different ways the primitive peoples make fire, describing one method with the aid of a North Queensland fire drill. Mr. Cassidy spoke on astronomy and after discussions on many subjects of natural science the meeting closed.

September field day was to Kissing Point to observe bird life.

OCTOBER MEETING— The lecture was given by Mr. H. Strauss, who spoke on experiences in New Guinea whilst on a geological expedition in the Markham Valley. The

climate and topography of that part of the island were described. He then proceeded with a description of the kind of natives he encountered, their ability to travel long distances over mountainous country, their agriculture, customs and method of using the bow and arrow. Pictures of native life were thrown on the screen and details explained. Specimens tabled included a young carpet snake by Mr. Black, a stone fish by Mrs. Searle, a stone adze and Trebriand wooden sword club by Mr. Kennedy.

October field day to the Town Common.

NOVEMBER MEETING — Mr. Keith Kennedy gave the lecture entitled the Story of the Zulus. A resume was given of the rise of the Zulus from a small tribe to a powerful nation, which was accomplished by the genius of Chaka during his lifetime. The absence of temples or any set form of worship, their belief in spirits, ghosts and wizards, the profession of witch doctor and rain doctor and other details of Zulu life were explained. He also compared the wearing by the witch doctor of snake bones, fish bladders and other talismans to the wearing of caps and gowns, wigs, and using strings of letters after their names by white people. Both races he said, used them for the purpose of inspiring ordinary people with the feeling of the wearer's superiority. Many coloured lantern slides photographed by the lecturer were shown depicting Zulus and their kraals, weapons, etc. Examples of their bead ornaments, wire bangles, shields and assegais and clubs were displayed and described.

After the lecture Mr. Black showed pictures of butterflies he had identified on the Town Common during the Club's field day, Miss N. Hopkins exhibited the cast off skin of a snake, and two birds nests, one built over the other.

November field day to Cape Pallarenda.

DECEMBER MEETING— The lecture, Rambles on the Town Common, was given by Mr. Sleigh. He commenced with the ponds and marshes at the entrance to the Town Common and took his listeners on an imaginary walk through different parts, finally coming out at the foot of Mt. Marlow, on Cape Pallarenda. The unique bird life and some of the flora was described and he compared the locality to what it looked like when he was a boy.

Butterflies of Cape Pallarenda were described by Mr. L. R. Black, and he pointed out the various marks of identification. Exhibits included were part of a porcupine fish, a seed vessel of the wild Kapok tree (Cochlespermun Gregorii), a large mangrove fruit, a laminated stone from the Ross River, a scented flower and leaf (unidentified) from Fantome Island, and an Indian orchid (Cymbidium aleoafolium).

December field day to Mt. Louisa and district.

JANUARY MEETING—Mr. Popham spoke on Street Names of Townsville, when much information of historical interest was disclosed. For example, Stokes Street is connected with natural science, for it is named after Captain Stokes, who commanded the Beagle on its historical voyage with the naturalist, Charles Darwin. Stanley Street is named after another naval officer and explorer, Owen Stanley, after whom the Owen Stanley Range of New Guinea takes its name.

Miss N. Hopkins described the birds observed during the last field day to Mt. Louisa district to Althouse Creek.

The Spangled Drongo

Chibia bracteata (Gould)

(By J. McLoughlin)

The spangled drongo is about one foot in length, and appears to be jet black.

The main characteristic of this bird is its forked tail, which it wags once or twice when alighting on a branch. When seen at a distance it appears to be jet black as mentioned, but when viewed from close quarters it will be noticed that on the breast, behind the ear-holes, and on top of the head, patches of bluish feathers are distinguishable.

The bird shows great loyalty to its eggs and young. I noted this with interest last nesting season when I was fortunate enough to find a nest built low enough for observation without the usual difficulty of extensive tree-climbing. I was about four feet from the nest when the brooding parent bird which had been glaring at me whilst I made the short ascent, flew off with a harsh cry. It returned shortly with its mate and I was subjected to a "dive bombing" attack by both birds.

Nevertheless, I managed to obtain a good view of the nest, and noted on the- bottom, three fledgelings barely covered with down of a darkish colour.

The spangled drongo builds its nest from a height of forty to fifty feet from the ground, entwining tendrils of wild creepers with local grasses to make a comfortable brooding place, and lining the interior with thin vine-tendrils. Three to five eggs are laid in one clutch, and are pinkish-white, spotted and streaked, chiefly at the large end with dark red, light brown and underlying markings of grey.

Expedition through Cape York Peninsula From Cairns To Palmer River

(By Douglas Veivers)

Less known and more interesting trails further North will be described in a further series of articles.

To the devoted student of natural history or the geographical, and to him who would wish a job done well or not at all, I feel that I must first apologise for the nature of this article.

It is not, as probably expected, a comprehensive survey of the Cape York Peninsula, but is compiled from observations made during a rush tour, and represents a cross-section, or rather longitudinal section of the "Big Cape," with some insight into its life and its people and such geography and natural history as may be incidental.

The road (query road) from Cairns to Cape York covers a distance of roughly 750 miles. I made the round journey during the comparatively easy winter months of 1949, one of a party of four, consisting of R. Veivers, organiser of the tour, C. Veivers, E. Quinlan, and lastly and leastly myself.

A 15 cwt. Chevrolet army utility served as our means of transportation, and when laden with the large quantities of petrol, stores, camping and road building equipment, proved little more than adequate for such a journey.

Of the first stage of the journey, through Mareeba, Dimbulah, Alma Den, Chillagoe, and so to the railhead at Mungana, I need dwell upon but little. It is a road often travelled. At Kuranda, some twenty miles from Cairns, the coastal scrubs are left behind, and thence the way lies through open forest country.

In those dry months of the year, the heat of these regions makes itself felt, and most of one's time is taken up in searching for adequate shade in which to gain some respite from the sun. But there is always some respite. I recall the charm of places where beer sold at the same price as "outside" despite their comparative isolation, and every hotel was a stopping place. Chillagoe I remember for the majesty of its famous limestone caverns, secondly, for the personal discomfort experienced through imbibing quantities of its equally infamous lime-water.

From Mungana it is a short drive to the crossing of the Walsh River, and the beginning of the Peninsula cattle country. The centres of civilisation now become fewer and farther apart.

We spent several hours beside the well-built causeway which spans the then dry bed of the Walsh, while the tyres of the utility cooled, and we ate a midday meal in company with myriads of ants and flies.

During that time the camp was invaded by two snakes. One, a specimen fully ten feet in length and possibly of the species Oxyuranus scutellatus (commonly known as taipan), was despatched immediately from a respectful distance. The other, a much smaller but more ferocious reptile of the same species, we boxed alive, with a view to domestication. (The domestication of a taipan would be entirely without precedent). But within a half hour of captivity the reptile had died, probably from sheer fright. We broke open one of our several bottles of rum and preserved his body in a mixture of rum and water hoping to obtain positive identification of the type. Not long after, observation of his condition showed that all colour in its body had been bleached to a pastel white. With all due consideration for personal internal organs it was decided that the remainder of the rum be jettisoned, but the decision was of course, a little hard, and finally it went along with us on the journey.

Beyond the Walsh the road (particularly good in this area) crosses the rich blacksoil plains of the Wrotham Park station to the Wrotham Park station settlement itself, and thence runs through a "short" 25 miles stretch of further blacksoil country to the Mitchell River. (The "Short" 25 miles was a distance supplied by one of the station hands. Apparently miles here are measured as "long" or "short," but I was not able to determine

whether this basis of measurement is due to the comparative natures and conditions of the roads to be traversed, or whether mileages here are measured to the nearest five and allowance made by further stipulation as to long or short). To Wrotham Park the road leads almost west; from there the actual ascent of the Peninsula begins.

Rising three-quarters of a mile from the eastern coast, the Mitchell, biggest of the Cape's rivers, flows some 300 miles west to discharge into the Gulf of Carpentaria. The waters flow perennially, and throughout its length the river is abundant in wild life.

Fish are plentiful in the stream, as are also the small freshwater crocodile (Crocodilus johnstonii to you), not a man-eater, but to my mind anyway, capable of inflicting a bite and therefore not to be tempted. They average between four and five feet long, but some may attain a length of up to nine feet.

Wild pigs roam the banks of the river, and game there is in abundance. The two common varieties of duck, the common grey duck (Anas superciliosus) and the black and white Burdekin duck (Spatula rynchotis) are plentiful, together with a variety of goose (Anseranus semipalmata—not strictly a goose), and two varieties of pygmy goose (Netlapus).

The Squatter Pigeons (Geophas scrysta), small brown flock pigeons and excellent table birds, are common right along the banks of the stream. Though generally found on the ground, they will scatter and rise swiftly when disturbed. The red-eyed Diamond dove (Geopelia humeralis) is not a rare bird in the region.

Probably the most interesting bird here is the ordinary black-breasted plover (Zonifer tricolor). A comical bird on the sandbanks of the river during the day (it dances ceaselessly about with mouth wide open), its weird cry at night as it flies continually overhead is one of the eerier aspects of this country.

A great deal of the bird life in the Peninsula makes its presence known in this way. There the crows disturbed our rest by day, and hordes of black cockatoos by night.

From the Mitchell River and Mt. Mulgrave Station on the northern bank the road leads north, through a short strip of eroded country, past the imposing landmark of Mt. Mulgrave on the right, and finally runs out on to the broad bed of the Palmer River and Palmerville T.O. (On this stage the road meets for the first time with the overland telegraph from Georgetown, which it follows generally for the remainder of the journey).

The Palmer, at the time of our crossing dried to a string of waterholes, is one of the more imposing of the Peninsula's big rivers. Here was the biggest of the Peninsula's former goldfields, at its peak during the 1870's when the bed of the stream, with its rich deposits of alluvial gold supported a population of 50,000 people, whites and Chinese. Now all is gone. The once prosperous centres of Maytown, Byrnestown and Uhrstown farther upstream are today typical "ghost" towns, silent and deserted.

The rich gold reefs that were here have long since yielded up the total of their treasure, and apart from these centres, there remains but even little evidence of the magnitude of this once teeming field. Now the population of the entire area can be counted on the fingers of one hand.

Stand here on the banks of this broad river bed, and feel a little of the spirit of those dead days. Feel the awe and oppression of a land where even the stars go down. Watch them at night from your blankets—the hosts of shooting stars that would seem to be still writing a valediction to the dominion that here was once man's.

But later gaze up again at the stars, and realise their true substance, hear the cry of wild ducks and geese that fly continually overhead and the ceaseless chattering and calling of the other free creatures of this land, feel its peace and contentment and understand the falseness of your former impressions, your misconstruction of the change that was manifested in this great land with the departure of close civilisation—not death, but restoration.

(To Be Continued)

Well Defined Circular Rings On Surface Land At Mandalee Station, Owned By Mr. J. Grant

(Report sent in by Mr. C. W. Elliott, of Atherton)

This station is five miles from Innot Hot Springs and eleven miles from Mount Garnet.

The size of these rings vary from 6 feet to 35 feet in diameter and consist of a most defined circle, approximately one to two feet in width and completely bare of all growth. There are about six, more or less surrounding and within half a mile of the homestead.

They are in ringbarked country and no visible life can be seen on them. The grass growing inside these rings does not burn with the usual bush fire, only when the wind is sufficiently strong to cause the flame to jump the bare ground of the ring (stiff loam) and has been covered by flood water twice within 33 years; all circles mentioned are 40 feet above the Herbert River summer level.

Soil in circles is similar to surrounding soil, is not swampy, but well drained with a very slight slope, if any at all, as water never lies stagnant.

The ringbarked trees are mostly Box and Bloodwood with a few Ironbark and was originally open forest country. The grass was originally Kangaroo grass, but since being ringbarked, spear grass has taken possession. The land in question which holds these rings has never been grubbed or cultivated and no stumps burnt out to blame as the cause.

Mr. Grant was born here, lived at Mandalee all his life and this information is a correct report of yearly observation by him. In passing, I must mention that in conversation with Mr. Grant, he is of the opinion they must be caused by termites working underground to obtain the short grass that is prevalent in their nests when burst open, but a peculiarity is that no large termite mounds are in close proximity, the nearest being 100 yards distant. The larger mounds usually contain the short grass like chaff. Smaller mounds may be similar but from observation only the larger mounds contain the short grass. No surface tracks of any kind show on this ribbon of bare earth and no insects have been seen when inspecting circles.

In each case the growth of grass in the centre is much taller than the outer growth (might be on account of not being burnt with the outer growth at burn off); nevertheless, the centre grass dies down annually; for your information all grass is burnt off annually. The tracks are very hard soil.

Several old pioneers of the area are very curious about the formation of rings and none can give any clue. It is with the hope that someone reading the journal may be able to give an answer or suggest the cause, that has prompted me to send this report.

Sunday Australian Printery.

The North Queensland Naturalist

The Journal and Magazine of the North Queensland Naturalists' Club

Vol. XIX **JUNE 1st, 1951** **No. 97**

Remains Of Aboriginal Habitation On the Great Barrier Wall

(By Dr. P. O. Flecker, Mareeba)

About thirty miles north-west of Charters Towers, the Great Basalt Wall is encountered; it is in this stony terrain that so much evidence of native habitation can be found. The Wall was described by the geologist, William H. Rands, in 1891, thus:—

"It runs along in an east and west direction, at a distance of from four to six miles north of Lolworth Creek. The basalt is highly scoriaceous. Everywhere the cracks produced in the rock on cooling are visible, and there are immense spheroidal-shaped masses in it, also produced by cooling. The lava must have outflowed in a viscous condition, for the well-known 'ropy' structure, formed by masses of semi-liquid lava rolling over and over, is very conspicuous; this structure is easily seen even in hand specimens.

"The basalt does not form a wall in the ordinary sense of the word—that is to say, there are no perpendicular cliffs of it, but it gradually rises in steps, getting thicker and thicker as it recedes from the margin. It is destitute of any vegetation, with the exception of some plum and bottle trees, and a few other scrub trees. I was informed by Mr. Clarke, of Toomba, that he had discovered some miles of well-grassed open country in the middle of this basalt. Its average breadth is about eight miles. Its general appearance is that of a recent outflow of lava, and it probably represents the latest outflow in the district."

The description is a good one geo-

Fig. 1. Stone Cairns.

logically. Rands, however, appeared to have little interest in the flora, as the growth of trees is fairly thick and most varied. In addition to the Burdekin Plum (**Pleiogyne solandri**) and bottle trees (**Sterculia**) mentioned numerous figs **Bauhinias,** and umbrella trees (**Brassaia actinophylla**) are encountered, making progress difficult in places. Surface soil is completely absent, consequently there are no grasses, except in a few areas which represent the dried beds of lakes. At the time of visiting, these lakes were full and there was only a narrow margin of grass at the edge.

The wall is approximately fifty miles long; I learn from residents of that district that the fish-traps described are a feature of the whole area.

The area visited was a portion of the Wall south of Fletcher Creek, adjacent to the old Southwick homestead.

Fig. 2. Fish-Race. The figure is standing in the race. The far end of the race is visible behind and above the shoulders.

FISH-RACES

Due to the rising of the basalt in step-like formation, valleys have been left in the basalt. During the wet season, the water courses along these valleys, and these rivulets abound with fish. When visited (1/10/50) there was no flowing water, though several pools were found which contained fish. The rivulets had been converted into narrow races, about three feet wide, by piling loose boulders into walls about two feet high on each side of the water flow. These races are numerous, and some systems extensive, one being followed for about a quarter of a mile. Occasionally a branch of a main channel is to be seen, which follows for some yards parallel to the main channel before ending blindly. Deeper holes are found, some in continuity with the races, and some separated from them. Apparently the former were used for netting or spearing fish shepherded along the channels, and the latter for holding captured fish. Some blockages in the main races are seen: though these appear to be part of the traps, it is possible that they are due merely to the falling in of the stone embankments.

FUNNEL TRAP

About two miles west of Southwick, large lakes are found, through which the water flows slowly, forming a connection between the waters of Lolworth and Fletcher Creeks. Between two of these lakes is a narrow

Fig. 3. Funnel Trap.

strait, about thirty yards wide, which has been further narrowed by two walls of stone, converging to a narrow gap. Fish could be driven into this structure, and speared as they passed through the narrow opening.

OTHER SIGNS OF HABITATION

Camping sites are numerous. Here loose stones have been removed over areas about thirty feet in diameter, and thrown in a disorderly fashion about the periphery. In several places cairns of stones, piles about three feet high, can be found. The significance of these is obscure. In other places, holes can be seen in the rock, with the removed stones scattered about. These are above the level of wet-season water, so their function can only be guessed. Possibly they represent places where some animal which sought refuge in the rock crevices was dug out for food. No evidence of old fires or food remains was found. This is not surprising as rain would rapidly wash charcoal, etc., into the crevices which cover the basalt. A kitchen midden, described to me by Dr. T. R. Edmeads, of Charters, Towers, as existing in the locality, was not found Several good speciments of grinding mills, of the pestle and mortar type, have been collected close to the Wall by Dr. J. Allingham, of Fletchervale.

Expedition Through Cape York Peninsula From Palmer River To Fairview (Contd.)

(By Douglas Veivers)

Night travel being impracticable, it was with more optimism than good sense that we departed from the Palmer in the early hours of one evening, on the short run across the Divide to the St. George River. In usual form, we chose the rougher and more vague of the two roads, and after many halts and false turnings were considering the advisability of staying further travel until morning, when the decision was clinched by the development of mechanical trouble in the vehicle in the form of a sticky clutch.

The grass here was shoulder high and in these winter months as dry as tinder. The burning off of an area for a camp would have resulted in a bushfire of mammoth proportion. The vehicle was loaded to canopy height with stores and offered no sleeping room and the various implements which might have been used for clearing a section of the ground were packed at the bottom of the load. Much too tired and dejected to undertake any considerable exertion, we bedded down for the night in the open, and I for one, spent some in chagrin in an endeavour to wedge my body into a comfortable position between the thickly growing tussocks of spear grass.

It was one of many strange camps on that journey.

The nights in these regions are strangely fascinating. The light, warm breezes which blow across the hills after dusk continue till the hour of nine or ten, and gradually die away. Subsequently the temperature falls rapidly till by dawn the air is still and particularly cool.

Before the first grey of dawn appears, in that uncertain hour between darkness and light, the silence of the region is broken by a strange rhythm, a mere murmer at the beginning, rising in volume till it reaches a steady, persistent theme, then to fade away with the first rays of the sun. It is the combined melody of the numerous varieties of small birds, the butcher birds, the thrushes and the robins, and others too many for mention here, all keeping time to the regular sharp cry of the blue winged kookaburra, **Dacelo leachi** or Forest Kingfisher, **Halcyon macleayi**, as it is more familiarly known.

We rose with the first notes of this strange glee club, and crept along the remaining few miles to the St. George River with the gears of the utility in second. We had carried no water with us and it was necessary to reach some.

The St. George, a small, normally dry tributary of the Kennedy flows through a region of some particular note. Most interesting perhaps are the bare sandstone ridges in the vicinity of the crossing and on which I have written in this magazine previously. The weathered cliff faces still bear indications of early native art and stencilling in the protected crevices and caverns. In the lower section of the ridges the sandstone has been eroded by the action of wind and rain into strange and interesting formations. I should have liked to have spent several weeks in the area, scouting out such places of interest and oddity, but our stay was a short one.

(Continued on Page Six)

A Check List Of Australian Dryopidae

Order, Coleoptera

(By J. G. Brooks, B.D.Sc., F.R.E.S.)

This paper has been prepared principally from the papers by the late H. J. Carter and Mr. E. H. Zeck, with some assistance from Messrs. Keith C. McKeown and Alex N. Burns, who have checked literature which was not available to me.

Family DRYOPIDAE

Sub-family DRYOPINAE

HYDRETHUS Fairm.	Ann. Soc. Ent. Belg. 1889, p.90. Genotype. **H. dermestoides** Fairm.	
1. **australis** King.	Trans. Ent. Soc. N.S.W. 1865, p.159. **(Lutochrus).** C. & Z. Aust. Zoologist, 1929, p.52.	N.Q., N.S.W.
2. **leai** Cart.	Proc. Linn. Soc. N.S.W. 1926, p.64. C. & Z. Aust. Zoologist, 1929, p.52.	N.Q.

Sub-family HELMINAE

AUSTROLIMNIUS C. & Z.	Aust. Zoologist, 1929, p.61. l.c. 1932, p. 204.	
Neosolus C. & Z.	Genotype. **A. (Elmis) politus** King.	
3. **atriceps** C. & Z.	Aust. Zoologist. 1932, p.203.	S.Q.
4. **diemensis** C. & .	l.c. 1935, p.79.	T.
5. **luridus** C. & Z.	l.c. 1929, p.62.	S.Q., N.S.W.
6. **metasternalis** C. & Z.	l.c. 1938, p.170.	V.
7. **montanus** King.	Trans. Ent. Soc. N.S.W. 1865, p.160. **(Elmis).**	N.S.W.
8. **oblongus** C. & Z.	Aust. Zoologist, 1933, pt.v.	
9. **politus** King.	Trans. Ent. Soc. N.S.W. 1865, p.160. **(Elmis).**	
punctulatus King.		N.S.W.
10. **suffusus** C. & Z.	Aust. Zoologist. 1935, p.80.	S.Q.
11. **variabilis** C. & Z.	l.c. 1932, p.203.	V.
12. **victoriensis** C. & Z.	l.c. 1929, p.61.	N.Q., N.T.
13. **tropicus** C. & Z.	l.c. p.69; 1932, p.204. **(Neosolus).**	N.T.
var. asper C. & Z.	l.c. 1929, p.69.	
STENELMIS Dufour.	Ann. Sci. Nat. 1835, p.158. Genotype. **S. consobrina** Dufour.	
14. **pallidipes** Cart.	Proc. Linn. Soc. N.S.W. 1926, p.63 **(Helmis).** C. & Z. Aust. Zoologist, 1929, p.68.	N.Q., S.Q. N.S.W.
KINGOLUS C. & Z.	Aust. Zoologist. 1929, p.53. Genotype. **K. (Elmis) metallica** King.	
15. **aeratus** Cart.	Proc. Linn. Soc. N.S.W. 1926, p.62. **(Helmis).**	N.S.W.
16. **cupreus** Cart.	l.c. p.507.	N.Q., N.S.W.
17. **flavoplagiatus** C. & Z.	Aust. Zoologist. 1929, p.54.	N.S.W.
18. **flavosignatus** C. & Z.	l.c. p.55.	N.S.W.
19. **heroni** C. & Z.	l.c. p.56.	N.S.W.
20. **metallicus** King.	Trans. Ent. Soc. N.S.W. 1865, p.160. **(Elmis).** C. & Z. Aust. Zoologist. 1929, p.55.	N.Q., N.S.W.
21. **quatuormaculatus** King.	Trans. Ent. Soc. N.S.W. 1865, p.101. **(Limnius).** C. & Z. Aust. Zoologist. 1929, p.55.	N.S.W.
22. **tinctus** C. & Z.	Aust. Zoologist. 1929, p.57.	N.S.W.
tyrrhenus C. & Z.	Aust. Zoologist. 1929, p.56.	N.S.W.

SIMSONIA C. & Z.	*Aust. Zoologist. 1929, p.58.* *Genotype. S. (Elmis) tasmanica Blkb.*	
25. allmani C. & Z.	*Aust. Zoologist. 1936, p.158.*	*N.S.W.*
26. angusta Cart.	*Proc. Linn Soc. N.S.W. 1926, p.62. (Helmis).*	*V.*
27. brooksi C. & Z.	*Aust. Zoologist. 1938, p.170.*	*N.Q.*
28. cotterensis C. & Z.	l.c. 1933, pt.v.	F.C.T.
29. eborica C. & Z.	l.c. 1935, p.79.	N.S.W.
30. hopsoni C. & Z.	l.c. 1929, p.58.	N.S.W.
31. irregularis C. & Z.	l.c. p.60.	N.S.W.
32. leai C. & Z.	l.c. p.59.	N.S.W.
33. longipes C. & Z.	l.c. 1933, pt.v.	N.Q., S.Q.
34. nicolsoni Cart.	Proc. Linn. Soc. N.S.W. 1926, p.61. (Helmis).	N.S.W., V.
var. bicolor Cart.	l.c.	V.
35. purpurea Cart.	l.c. p.508.	S.Q., N.Q., N.S.W.
deani C. & Z.		
36. tasmanica Blkb.	l.c. 1894, p.94. (Elmis).	N.S.W., V., W.A., T.
37. tonnoiri C. & Z.	Aust. Zoologist. 1936, p.158.	N.S.W.
38. vestita C. & Z.	l.c. 1929, p. 60.	V.
39. wilsoni Cart.	Proc. Linn. Soc. N.S.W. 1926, p.64. (Helmis).	N.S.W., V.
NOTRIOLUS C. & Z.	Aust. Zoologist. 1929, p.63.	
	Genotype. N. (Helmis) quadriplagiatus Cart.	
40. allynensis Cart.	Proc. Linn. Soc. N.S.W. 1926, p.507. (Helmis).	N.S.W.
41. barretti Cart.	l.c. p.506. (Helmis).	S.Q., N.S.W.
42. davidsoni C. & Z.	Aust. Zoologist. 1936, p.156.	N.S.W.
43. dorrigoensis C. & Z.	l.c. 1929, p.64.	N.S.W.
44. galstonensis C. & Z.	l.c. p.65.	N.S.W.
45. humeralis C. & Z.	l.c.	N.S.W.
barretti Cart. var. basalis Cart.		N.S.W.
46. maculatus Cart.	Proc. Linn. Soc. N.S.W. 1926, p.507. (Helmis).	N.S.W.
47. minor C. & Z.	Aust. Zoologist. 1932, p.204.	N.Q.
48. minutus C. & Z.	l.c. 1938, p.171.	N.S.W., V. T.
49. quadriplagiatus Cart.	Proc. Linn. Soc. N.S.W. 1926, p.63. (Helmis).	N.S.W.
50. setosus C. & Z.	Aust. Zoologist. 1936, p.156.	N.S.W., V.
51. simsoni Grouv.	Not. Leyd. Mus. 1896, p.49. (Helmis).	N.Q.
52. subplanatus C. & Z.	Aust. Zoologist. 1929, p.66.	N.Q.
var. C. & Z.	l.c. 1938, p.172.	N.Q.
53. taylori C. & Z.	l.c. 1936, p.157.	N.Q.
54. tropicus C. & Z.	l.c. 1938, p.171.	N.S.W., V.
55. victoriae C. & Z.	l.c. 1929, p.66.	
COXELMIS C. & Z.	Aust. Zoologist. 1929, p.52.	
	Genotype. C. (Elmis) novemnotata King.	
56. novemnotata King.	Trans. Ent. Soc. N.S.W. 1865, p.159. (Elmis).	N.S.W., V.
57. trinotata C. & Z.	Aust. Zoologist. 1929, p.67.	N.S.W.
58. v-fasciata Lea.	Proc. Linn. Soc. N.S.W. 1894, p.590.	S.Q., N.S.W.
var.— C. & Z.	Aust. Zoologist. 1929, p.68.	N.S.W.
STETHOLUS C. & Z.	Aust. Zoologist. 1929, p.52.	
	Genotype. Stetholus elongatus C. & Z.	
59. elongatus C. & Z.	Aust. Zoologist. 1929, p.53.	N.Q., N.S.W.
60. laticeps C. & Z.	l.c. 1932, p.202.	N.S.W.

Scrubby regions border the river in places and in these thrives the common scrub or bush turkey, **Alectura lathami,** some of the flocks which we disturbed numbering up to a dozen or more. Such prolificness is short of understandable in view of the large numbers of wild pigs which frequent the river, the buried eggs of the megapod usually providng a feast for them.

The tussles with these herds of pigs provided some of the more exciting moments there. An omnivorous scavenger, the pig has come to be regarded in many places as a pest, yet his numbers are increasing rapidly. All of our party being enthusiastic riflemen, the opportunity was there for a little practical shooting. I can recall one occasion in particular when two of the party were treed by a wounded boar with a rather unreasonable temperament, an incident which the others found extremely amusing at the time, indicating an infantile sense of humour.

Bad luck and inconvenience marked the greater part of our tour. At this stage we had lost all our spare tyres through blow-outs, the result of too much travel too fast during the hotter hours of the day. The trip from here to Cape York and back was subsequently made without a spare, as tyres were an unobtainable item in that country. So with travel restricted to early morning and late afternoon and a time limit placed on the journey, we usually rose at an early hour. Both the senior Mr. Veivers and Charlie, who had the ruling votes, saw little amiss in dispensing with breakfast entirely in order to obtain an immediate start, but it was only under protest that Ted and I complied with the custom. Subsequently it was not unusual for "breakfast" to be eaten at about midday.

With repairs effected temporarily to the utility at the St. George, we resumed travel and covered the route to Fairview Post Office with only brief halts to disturb the numbers of wild pigs which were gathered at the waterholes along the way. From Fairview, a branch telegraph line and road run east to Laura, head of the Cooktown railway. It was rumoured at the time that the Fairview Telegraph Station would shortly be moved to Cooktown, an event which in its fulfilment would remove yet another centre of civilisation from an already sparsely populated country. Such centres as these telegraph offices may appear "large" upon a map; actually they are each merely country clusters of buildings accommodating the "staff" and family.

Beyond Fairview the overland telegraph line begins to make impression on the mind with its trying monotony. Ever it stretches, mile upon mile of it, seemingly endless, with the road deviating from its route only around impassable country. But the linesmen of the telegraph offices, necessarily hardened bushmen, must tend and care for every foot of it, keeping down in the twenty yard easement the growth which follows the wet, repairing the inevitable breaks, ensuring that the slender wires remain serviceable.

Everywhere one goes in the wide outback areas of Australia, one is struck with the same thought. Here is a big land and its people are big accordingly.

We found no water at the Kennedy crossing and pushed directly on to the Hann River. The Kennedy, like so many of the rivers of the lower peninsula, flows only during the period of the brief wet. In the dry months, water holes in the broad, sandy bed are few and far between. But the wet, though brief, is torrential and calls a halt to all road communications for some time, bridges over streams being nonexistent.

The small but perennial Hann was a welcome change from the monotony of dry rivers, and the camp there was of the more enjoyable of the journey.

Game was plentiful in the lagoons and provided relief from the hardness of a canned and salted meat diet. Though fish were not plentiful in the stream we had evidence of a type of swamp giant sea perch, **Lates calcarifer,** here called "barramundi." which could be found there. But our modern tackle and fishing skill proved insufficient to cope with the wiles and we failed to land one. Fish was not entered on our menu till a later date on the tour.

A feature of the Hann is the occurrence of the saltwater crocodiles there, Crocodilus porosus, they having **penetrated** so far up fresh flowing water from the sea. The deep, dark pools provide suitable haunts for the saurians and are suggestive of their presence

In expeditions along the stream, we found sundry strange and interesting relics of the past, axes and implements of early settlers and prospectors, an old muzzle-loading rifle, and in a secluded spot upstream a pair of old and rusted leg-irons with the manacles rivetted in

place. They were tokens of an age not yet long gone.

I liked the Hann River and all its associations. It is one of the delightful spots in the big peninsulla.

(To be continued)

North Queensland Naturalists' Club

Meets at School of Arts, Lake Street, Cairns, on second Tuesday in each month, at 8 p.m.

MEETINGS:

10th Oct., 1950.

14th Nov.: Address by Mr. Cantrill on "Astronomy."

12th Dec.: Address by Dr. H. Flecker on the "Wannakai" (finger cherry).

9th Jan., 1951: Address by the President, Mr. A. Read, on Biological Nomenclature.

13th Mar.: Lecture by Dr. H. Flecker on Mollusca.

10th Apr.: Lecture by Mr. George Wilson, of Meringa Experimental Station, on Scientific Aspects of the Sugar Industry.

8th May: Impromptu Lecture by Mr. D. R. Peiniger, on Bird Habits.

NEW MEMBERS ELECTED

13th June, 1950. Miss Price, Bungalow, Mrs. Price, Bungalow, R. M. Smyth, 91 Esplanade, Cairns.

10th Oct., 1950: Dr. K. McL. Benn, Base Hospital Cairns.

9th Nov.: Mr. Arnold Johnson, Cane Pests Board, Hambledon.

8th Feb., 1951: Messrs H. F. Ziegenfusz, Cairns Rd., Gordonvale. S. G. Butler, P.O., Cairns.

13th Mar.: Miss R. Burkitt, 137 Lake Street, Cairns.

10th Apr.: Mrs. Berkeley Cook, Kuranda Barracks, Cairns.

8th May: Mr. Geoffrey Higham, 17 Rose Street, West Cairns.

Townsville and District Naturalists' Club

Lectures and Field Days

The Club meets on the first Friday of each month in the Adult Education Centre Lecture Room, Wickham Street, Townsville.

President, Mr. K. Kennedy, Esplanade and Rose Streets, Kissing Point, Townsville. Hon. Secretary, Elizabeth Kennedy, Box 178, Townsville.

February Meeting. The meeting took the form of a members' night. Miss N. Hopkins described the birds observed at Beach Creek (Three Mile) and read a list of birds observed by Mrs. Hopkins during the Club's last field day. Mr. J. J. Selvage, who has just returned from a trip out west, told of his observations of bird life on the sand ridges near Prairie. Mr. R. Sleigh spoke of local aboriginal relics, and Mr. Cassidy gave a talk on sun spots and their influence on the earth.

The field day was to Pallarenda.

March Meeting. The lecture was given by Owen Maloney who spoke on Tasmania. The lecturer told of the hydro-electric works of the lake country, the cement industry, paper industry, mining, forests and fisheries. Photographs taken by Mr. and Mrs. Maloney illustrated the various points of the lecture.

Miss N. Hopkins then spoke of the birds inhabiting the land near Heatleys Parade, which is shortly to be subdivided into a suburb, and Mr. K. Kennedy exhibited a burl obtained from the butt of a tree, **Melaleuca cunninghamii**, in the same locality.

The field day was to Heatleys Parade.

April Meeting. Mr. S. Brock gave the talk describing his visit as a naturalist to Gladstone, Maryborough and Rockhampton and their hinterland. He spoke of the various kinds of forests in the different districts, and the insects, birds and shells he observed. He also drew attention to the silting of the rivers and creeks, due to soil erosion. His exhibits included some of the celebrated kookaburra shells from Gladstone, a strombus shell from New Guinea, a maori adze, some fossilized wood from New Zealand and a unique "death's head" orchid in flower. The latter has the property of being able to eject to a fair distance pollen masses when the column is touched. During the evening a list of birds and butterflies observed at Hughenden during March by Mr. L. R. Black was read.

The field day was to the top of Mt. Cutheringa, or Castle Hill.

May Meeting. Mr. J. J. Selvage gave the lecture on Bower Birds, which he said are unique in that they are the only birds known to scientists that build a bower or playground. From his observations Mr. Selvage said that it takes about six months for the birds to build a bower, which is rebuilt every year, parts of the old bower being used for the new one. In the school ground at Stuart there is a bower that has been occupied and re-built every year

since 1927, but whether by the same pair of birds he did not know. In contrast to the bower, which is essentially a playground, the nest built by the bower birds, is very flimsy. Their food consists of wild fruits, such as berries.

Mr. L. R. Black's monthly report on butterflies, birds and snakes was read and discussed.

ELIZABETH KENNEDY,

Hon. Secretary.

PUBLICATIONS

No. 1. Check List of North Queensland Orchids. Price 1/-.

No. 2. Marketable Fish of the Cairns area. Price 1/-.

No. 3. Check List of North Queensland Ferns. Price 1/-.

No. 4. List of Edible Fruits of North Queensland. Price 2/-.

No. 5. List of Birds Occuring in North Queensland. Price 2/-.

Sunday Australian Printery

The North Queensland Naturalist

The Journal and Magazine of the North Queensland Naturalists' Club

Vol. XIX. SEPTEMBER, 1951 No. 98

An Aboriginal Spinning Top

(By KEITH KENNEDY, Museum of Music, Townsville)

The illustration shows a spinning top once used by the aborigines of the North Queensland rain forest. At the beginning of this century, it was brought down to Sydney, New South Wales, from the Atherton Tableland. This kind of top is now very rare, owing to being made from

a small gourd, **Benincasa vacua** F. Muell., which is rather brittle and so is easily destroyed. There were two varieties, the silent and the humming. Roth (1) saw them in use amongst the rain forest blacks of the Tully River, and states that the hole in the side to cause the hum was a recent innovation.

Measurements of the illustrated specimen, which is now in the Musical Museum of Townsville are: diameter of gourd 6.5 cm., length of wooden spindle on the axis of which the top spins, 16cm., its diameter being 6 cm. The spindle passes through two holes, one at the top and the other at the bottom of the gourd, and is held in place by native string and a black gum.

Two lateral holes 5 mm. in diameter are burnt in the gourd to cause the hum when it spins, which is done by rotating the longer end of the spindle between the palms of the hands and dropping the top on a suitable surface. To prevent the gourd from becoming fractured, the aboriginals would often spin a top on a piece of native cloth manufactured from bark (2).

A top made of beeswax flattened into a disc through which was thrust a wooden peg was once used by the blacks of the Cape Bedford district (1), and this was spun by twirling the proximal end of the peg between the fingers.

In Central Australia the Lake Eyre tribes use burnt gypsum mixed with water and rolled into a ball, into which a small peg of wood was inserted. The ball is spun with the fingers and rotates on the peg. In some parts of Central Australia and in Western Queensland the peg is dispensed with and the top becomes a spin ball.

(1) ROTH. N.Q. Ethnography, Bull. 4, Brisbane, 1902.

(2) KENNEDY. Bark Cloth of N.Q. Aborigines. N.Q .Naturalist, No. 71, Cairns, 1944.

H. Flecker Natural History Prize Essay, 1951

Observations on the Life History of Coscinoscera hercules (Misk.)

By JOHN McLOUGHLIN

Early in April last, seventy eggs of the Hercules Moth, **Coscinoscera hercules** (Misk.) were presented to my brother and myself in the hope that we might be able to rear them.

On April 19th, sixty seven of these seventy eggs hatched. The caterpillars were approximately an eighth of an inch in length, and of a chalky white in colour and covered with spines protruding at regular intervals along the back and side. Their first meal

consisted of the egg-shell, which they ate soon after hatching. There were about six of these larvae, which did not eat the egg shell and by keeping a close check on them, it was noticed they were amongst the first to die.

On the morning after hatching it was found that they had congregated around the edge of the water in which the food plant, **Homalanthus Populifolius Grah** had been standing in. Although at first the purpose of this was not clear, it was soon realised that they were drinking, and this they continued to do until they pupated.

On 26th April, the larvae, having grown practically three times their size in one week, shed their first skin. They were still of a chalky white colour with a faint greenish tinge between the segments of the bodies, and the spines were now longer and more distinct.

Their second skin was shed on the 3rd May, when their colour still remainded white, although it possessed a frosty green colour. The spines were now very long, and about half an inch in length. At this stage they started to disappear, and at first it was thought that they might have crawled away, but no trace of any strays could be found and the mystery was only solved when, one night, a large green frog, **Hyla coerulea** was seen sitting in the water. On counting the flock, it was noted that five more had disappeared, so it was then certain that our green friend had made a meal of them. The frog was then removed to the swamp and as there were no more mysterious disappearances it was believed that the visits had ceased. The sixty seven were now reduced to forty-two.

The third moult took place on the 8th May, when they had attained a length of about one and a half inches ,and were a beautiful pale blue with bright yellow spines. At this time, however, about ten of the remaining forty two started to die off, and appeared unable to crawl out of their skins. It was noted that the smaller weaker ones died, leaving only the more robust. Thirty two caterpillars now remained.

On 15th May, they moulted for the fourth time, their colour now being a bright bluish green with dark green hind claspers, and now shorter yellow spines. They were rather big now, and their consumption of food tremendous. Thus a branch given to them in the morning would be stripped in the afternoon.

The fifth moult took place on 27th May, when they were now of a deep green colour and about four and a half inches in length, the spines being short and very hard, now a deeper yellow in hue. At this stage, two thirds of the remaining thirty two larvae died. At first it was thought that this was due to some disease, but this evidently was not the case. It was noted as just mentioned that they were voracious eaters so much so that they often stripped the branch before an opportunity was made to replenish them. One afternoon upon returning to feed them, the reason was soon noted, for in their quest for food, the caterpillars came into contact with one another, striking out with spiked heads and necks, sinking the hard spines into the soft bodies of the other, causing internal injuries ending finally in death.

On 10th June, the remainder moulted for the sixth time. They were reduced in number to six and a half inches in length, or at least four of them were. The other seven simply died off one by one.

On the 20th June one of the four pupated, pulling a number of leaves around it, and spraying them with a fine silk like thread. Before this was accomplished, however, it fastened the leaves to the branch with a coarse thread, preventing it falling should the leaves die and break off. The other three soon did likewise, and now their emergence is patiently awaited.

Out of 67 larvae, four lived to pupate. This indicates how nature balances life. Left in their native state, birds and parasitic insects would have made short work of the caterpillars, and may have reduced their number to nil. However, we now know more about this wonderful moth's habits than before, and if fortunate enough to obtain more eggs, it is hoped, with this experience, to raise at least half of them into adult moths.

A Butcher Bird Family History

PIED BUTCHER BIRD, Cracticus nigrogularis.

By GORDON F. LEITCH

In 1936 a much battered butcher bird appeared in our bay—just fifteen years ago.

"Our Bay" needs a little explanation. It is situated on the North East tip of Magnetic Island. Hemmed

in by massive ramparts of granite over which two tracks climb that can be negotiated by those sound in wind and limb. Our main road, however, is by sea over a partly sheltered beach that is not always fit for landing. Eleven acres of flat tree covered land comprises our Bay, beautiful, secluded and unspoilt.

The butcher bird, a black and white, was the first recorded here and had probably suffered some adventures with a hawk as his head was bloody and tail feathers missing.

Since that date "Old Bird," as he is affectionately called, has resided with us. Finding a wife, probably from Horseshoe Bay, the nearest colony of his tribe, Bill set up housekeeping and year by year nested and reared families of from one to four per annum. Some years, storms destroyed nest after nest and no eggs were hatched, while in 1949 a record of four young were reared. How many wives Bill has had it is impossible to say as full plumaged birds are extraordinarily difficult to identity. Even seen closely many times a day, separately and together, it is only by little mannerisms and movements that we can pick them out.

But Bill was different. These butcher birds, though bold enough, are very suspicious and generally show little confidence in human beings. All of them will take food from the hand but only while on the wing, but old Bill would perch on the hand and take his meat in leisurely fashion and behave like a perfect gentleman.

But alas, he will no longer. Late last year he suddenly became suspicious, shy and almost unapproachable.

We decided that some picnic party on the beach, and he never missed a picnic, had abused his confidence and frightened him. Probably someone tried to catch him, but whatever happened we have to gain his confidence again—after fifteen years.

Now to family matters. The butcher bird menage is a model for training the young in domestic duties. The young birds do not get their full plumage till their second year, in fact at about eighteen months. Until then, in their grey and white livery they are hand maidens and rouseabouts to their parents.

When nesting time comes round the parents choose a site after a very careful inspection of many possible locations. The site is invariably a very high fork in a beach casuarina (**Casuarina equisetifolia**) often on such a bough tip that a heavy continuous wind whips the nest to pieces. There is one constant characteristic in these nest sites, however, a bough invariably crosses the nest some six to nine inches above it as a protection from hawks.

Now the nest building begins. Both old birds get busy bringing in sticks and twigs and after some juggling a framework of a nest appears.

The 1949 nesting was very closely watched and this is what happened. The previous year had produced only one young bird of unknown sex and we called it Sandy and Sandy watched his parents at work for a few hours and then appeared with a twig. He placed this on the nest just as mother came along with another. She picked up his offering, threw it overboard and placed her own twig in position. Sandy then went and got another and another till at last one was accepted and woven into the nest. Next day, Sandy was doing his full share of the work though occasionally his twig was removed and replaced for his education.

In due course the nest was completed and eggs were laid. Sany again did his share of the brooding and did his shift on the eggs. Whether the old male ever did a turn on the eggs could not be ascertained as it was impossible to distinguish the old birds apart.

On the hatching of the chicks Sandy was again instructed in family management and nursery work. From early till late he gathered and brought in food for the family. A family of four hungry youngsters kept the parents and Sandy hard at it for weeks and by the time they were self supporting the staff were worn and weary. I should mention that quite early these youngsters were brought along and lined up for their meat ration.

This gave us a total butcher bird population of seven, since reduced to four by migration. There was no increase in 1950 as the nests were repeatedly whipped to pieces by the South-Easters. It will be interesting to see this year's set up. We think one of the remaining four birds is a stranger and possibly another has arrived, an elusive shy bird.

Sandy with a full domestic education is with the migrated group and no doubt this season will make a good husband—or wife.

The Dance of the Stone Curlew

Burninus magnirostris Latham

By GORDON F. LEITCH

We have all heard of the famous brolga's dance. Most of us have seen it, but how many among us have seen the Stone Curlew's dance? The weird chorus of wailing whistles on a moonlight night conjure up pictures of mystic ceremonies and dances held in an open glade in the scrub. A dingo's howl in the distance adds to the effect and a touch of frost completes the atmosphere.

A couple of moons ago I had a dress circle seat on at one of these dances. An inconspicuous sleeping cabin wired from the ground to the wall plate, back and front, gives me many a quiet view of unsuspecting birds and other animals. In front, it faces a glade running to the sea. At the back a glade runs into the scrub. so I see quite a lot.

The moon was near the full, the curlews were in fine voice and I lay at peace watching the moonlight on the water and waiting for the angel of sleep.

Without warning, the wee-ee-loo of the leader of the curlew troupe opened up within ten feet of my pillow and then the show started. There were three birds present in the first movement of the ballet, two courtiers and a lady evidently. The latter very coy and diffident. The routine was for one of the cavaliers to glide forward before the lady and give a bow right and left, then to stand very upright with head thrown back and give the long mournful wee-loo repetition with the second male coming in with the chorus. Other birds out of sight joined in for a moment, then ceased, letting the wee-loo repetition die away on a lower note. The number one performer then did some side stepping and scraping with his neck slightly distended but always with the swift gliding steps so characteristic of the movements of these birds. Every now and then he broke into the mournful cadence of the same corroboree song with chorus joining in. This first movement did not take more than a minute or two and then number two male shouldered the first bird away and took up the routine in front of the female, while the first star kept up his side stepping and bowing on the side lines. The lady seemed unconcerned about the whole thing and moved about the little glade in little runs in an aimless fashion. Three grey ghosts of birds doing a minuet in the moonlight.

Two more birds glided on to the stage and moved with the group, but except for helping with the chorus, took no part in the bowing and posturing of the male birds.

The stone curlew is generally about as graceful as a dry mulga stump, but in this little performance it exhibited a delicate grace that was very charming, and as it moved out of sight I felt I had been a most privileged spectator.

I presume these were young birds courting. I think, or I like to think, these birds mate for life. I am open to be corrected about this but there are a pair of birds in a belt of quinine (**Petalostigma**) scrub within a hundred yards of me now and they have been there for five years to my knowledge, except for a month or two in the spring when they go into the hills to nest.

DENDROBIUM GIDDINSII HUNT.

In the North Queensland Naturalist xv, 87, 25th June, 1948, I described and named **Dendrobium giddinsii** Hunt. Soon afterwards, the Rev. H. M. R. Rupp and the late W. H. Nicholls drew my attention to the fact that they could not separate it from **D. Bairdianum** F. M. Bail., a species which I had unaccountably overlooked in making the determination. It is, of course, that species and the name **D. giddinsii** must be reduced to a synonym.

TREVOR E. HUNT. 18 vi 1951.

Expedition Through Cape York Peninsula (Continued)

By DOUGLAS VEIVERS

There are few places which rival the Cape York Peninsula for variety and affluence of wild life, the causes affecting this result being largely obvious. The country is sufficiently fertile to support their large numbers yet far enough removed from close civilisation to allow of their continuance, unmolested. In addition there occur many species of birds, not native to the land, but which have migrated to the Australian continent from New Guinea and northern islands. These are more abundant in

the very north of the peninsula, though some, such as parrots and lorikeets may be seen far south.

The Morehead River District, some miles above the Hann, could serve as an excellent example of this prolificness. Along the river and well above the level of the deep dry bed occur permanent lagoons, some of them several acres in extent. The only aquarian inhabitants of these waterholes is the small freshwater crocodile, **Crocodilus johnsoni** but the amount of bird life which flocks to them is astounding. At one time I have seen many hundreds of ducks and geese congregated on the surface of the water, while brolgas, jabirus and the ever-present plovers swarmed the banks and waded in the shallows.

In the trees beside the lagoons, both black and white cockatoos kept up their incessant cries, and when at sunset the screeching thousands of galahs came to water, there was truly pandemonium.

At night the herds of pigs would wander down and wallow in the mud of shallows, while an occasional dingo or two crept furtively in to drink. Hither these scattered lagoons come eventually all the wild creatures of the dry land, for water is their life's blood and here, where scarcity exists, is its true value known.

The varieties of parrots (and there were many) which frequent this section of the peninsula, were largely unknown to me, and most I could not now identify. One, of which I saw one flock, was a magnificent bird, predominantly green in colour, with a dense black crown and its striking appearance remained in my memory. I understand it to belong to the genus **Barnardius**, but more I could not say. Whatever the species, their gay colour is always a welcome addition to the landscape.

Common to this area is a species of bower bird, which I believe is the Spotted Bower-Bird, **Chlamydera maculata**, a resident of such drier regions as this, and its playground may be discovered quite frequently along the banks of the gullies. The bower is built cylindrically, open at both ends, with strong arching walls of interlaced twigs. At the front entrance the bird strews its curious collection of oddments, pieces of broken glass, pretty pebbles, and fragments of bleached bone and shell.

In a light scrubby section encountered earlier on the tour, I recall noticing a playground of the Tooth-billed Bower-Bird, **Scenopoetes dentirostris**, which I have often observed in the coastal brushes around Cairns. This latter does not build a bower, but contents itself with a rather extraordinary playground. On a cleared area of ground about five or six feet in diameter, from which it has scratched all leaves and rubbish, it arranges even rows of large green leaves, such as those of **Litsea dealbata**, the silvery undersides uppermost. Indicative of the nature of the bird, it may take considerable time for it to decide that a leaf is correctly placed, alternately moving it a little one way with its beak and standing back to note the effect. In such a manner it passes hours of its time. I have quite often, in the nature of an experiment, interfered with the arrangement of the leaves when a bird had left, reversing and realigning them. On the morrow they would be carefully returned to their original positions and correct sides up. For sheer eccentricity surely the curious habits and antics of this family of birds must be unrivalled by any other.

The day or so we spent in the region of the Morehead River was pleasant and crammed with interest, but time pressed, and we left for places further north. At Musgrave, the telegraph office and homestead of the cattle run of the same name, there was the necessity of a further day's halt, and we passed our stay here enjoying the hospitality of the owner. A pleasant day it was indeed. The hospitable nature and generosity which makes up the character of man is never more evident than amongst these people of the open areas and outback.

From Musgrave several tracks run north to Coen. The old route through Yarraden Station and Ebagoolah was in bad repair, the crossings of the two Colemans being reported impassable, yet this was the road by which we returned. On our forward journey it was necessary that we pick up some stores at the Depot on the Annie River, and we took the route through Violet Vale holding to the Princess Charlotte Bay, whence the road turns northward along the coast.

The track to the bay was good but ill defined. From the slightly undulating country of the interior the land flattens out into large fertile plains along the lower reaches of the Annie River and adjacent streams. Ideal grazing land though it may be, it is like most of the peninsula country, deficient in water through the winter months and sub-

sequently unable to support a maximum capacity of stock. Wells and bores placed in convenient centres would considerably alleviate the position and open up larger areas to perennial grazing, but at present, the stock owner relies upon naturally occurring waters.

On these plains of the Annie River and northwards to well beyond Coen occur the magnetic termitaria, one of the notable oddities of this country, though a satisfactory description would describe them as flat, their shape might well be outlined in further detail. Accurately, the eastward face of each bed is convex in its entirety, whilst the opposite face rises from a convex base to fairly flat at the summit. The average dimensions of the beds in the area would be from three to five feet in height by a similar length, with a thickness of six inches to a foot. Some of them, however, may attain a height of seven or eight feet.

Now the curious fact of course relating to these termitaria, and from which they derive their name, is that the longer axis invariably points in a roughly north and south direction. Many theories have been advanced in explanation of this phenomenon, one of which attributes to the prevailing winds and rains the influencing factors. It is suggested that the action of those winds and rains causes erosion to the eastern and western faces, permitting unhindered construction only in the northern and southern directions. This hypothesis, however, is unsound, the flaws being readily apparent. Another and more probable explanation is that the termite builds its nest to derive a maximum of heat (or minimum of light?) from the sun, a theory supported by the fact that the galleries in the termitaria are situated close to the surface. In all probability the termite is a warmth loving (or light shunning?) creature, disliking even the mildness of the northern winters.

Meanwhile the small termite responsible for the construction of these curious dwellings, **Hamitermes meridionalis** continues with his duties, content no doubt in the knowledge that he at least knows where he is going. Although termites are usually called "white ants," they belong to an entirely different order, the Isoptera. Ants of course are a family to themselves (Formicidae belonging to the order Hymenoptera).

A mile upstream from the mouth of the tidal Annie River has been established a depot where supplies for Coen and neighbouring centres are unloaded from calling ships. The "port" was made some years ago, when the harbour at Port Stewart, further north, became silted and shallow. Though a deeper anchorage, the stream at the offloading stage at the Annie River is barely thirty feet in width, allowing passage of only the smallest of craft. Charlotte Bay itself is shallow and dangerous when a high sea is raging.

Along the shores of the bay and eastward from the Annie River are dense mangrove swamps and tidal disturbances. This is crocodile land, and the rendezvous of a few odd people who travel here to hunt the saurian, both as a form of sport and for the profit realised from the sale of his skin. Yet his numbers are not great, and I rather suspect that his hunting would be a doubtfully profitable occupation at best. As a quarry, he is certainly wary and elusive and appears to prefer the sanctuary of the water when the hunter enters his domain.

Along the narrow coastal plain the track runs north along Princess Charlotte Bay, and as we passed beside the beaches, we disturbed great numbers of brolgas, jabirus and wild ducks and geese which had been settled on the sands. The brolgas in particular were a striking spectacle, making off in graceful and leisurely flight.

On returning in from the coast, I recall passing through one of the most magnificent bloodwood forests I had seen, the great trunks of the trees rising clear to a hundred feet into the air. It was cool and pleasant in these glades and we passed some time in its pleasant atmosphere.

Northward the country is inconsistent with short shrubby regions running out into the typical grass forests of the interior. Through here a terrific wind of an earlier year had passed in fury, for everywhere the ground is strewn with the dead grey trunks of uprooted trees. Later I read accounts and listened to tales of this epic cyclone.

Numerous diversions and items of interest along the route slowed our time, for it was well into evening that day when the Divide was crossed from the foothills and the little township of Coen was reached.

Correction. In last issue, in heading of opening article by Dr. P. O. Flecker for "Great Barrier Wall" substitute "Great Basalt Wall."

North Queensland Naturalists' Club

Meets at School of Arts, Lake Street, Cairns, usually on second Tuesday in each month at 8 p.m.

MEETINGS

12th June, 1951: Mr. W. Hosmer, visitor from Sydney, described formation of Herpetological Society in Sydney.

11th July, 1951: Mr. A. B. Cummings gave an interesting address on mining in North Queensland.

14th August, 1951: Considerable amount of general business was discussed.

NEW MEMBERS ELECTED

12th June, 1951: Mr. John Sydney Gray, Box 267, Gordonvale; Mr. John Allen Gray, Box 287, Gordonvale; Mrs. Rose Keith, Box 63, Cairns.

14th August, 1951: Mr. Tom Carr, Molloy.

EXCURSION: 17th June, to Davies Creek was well attended and the weather good. Demonstration of the method of capturing wild bees—both of the domestic species and of the small native bee, **Trigona**, was made by Mr. E. Klemm and his assistant.

ANNUAL GENERAL MEETING: to be held on 11th September when the election of officers, annual report and balance sheet will be dealt with.

BOOK REVIEW

26. A HANDBOOK OF THE SNAKES OF WESTERN AUSTRALIA, by L. Glauert, 50 pp., 15 figures, 1 coloured plate, published by W. A. Naturalists Club, 1950.

Each snake is well described with plenty of notes, being placed in its respective family, and as many of these are likewise found in the Eastern Australian states, it serves as a useful handbook for these also. However, the arrangement into families differs somewhat from that usually described the Green Tree Snake, **Dendrophis punctulatus** alone being placed amongst the Colubridae, whilst the Back-fanged Snakes are placed in the dual families, Homalopsidae and Dipsadidae—no distinction being made between them, comprising the freshwater snakes, **Cerberus, Fordonia, Myron and Boiga.** The common sea-snake in W.A., **Pelamis platurus** is the only one amongst the Hydrophidae and is not one of the common species of this family found in North Queensland.

Sunday Australian Printery

The North Queensland Naturalist

The Journal and Magazine of the North Queensland Naturalists' Club

Vol. XX DECEMBER, 1951 No. 99

Legend Of The Big Rock

By DOUGLAS SEATON

As told by Maud (Joob-bee), Echidna (Goo-ring) totem, Tyapukai people (Kuranda Area), this event happened in the dream time (Yurren-day).

Two young women searching for food saw the tracks of a wallaby (**boon-darra**), in the grass. They set fire to the grass to round up the **boon-darra**; the fire travelled quickly towards a gully (**warra-bar**) where a giant man named **Kannan-durra** was sleeping (**warumba warnung**). He was badly burnt by the fire and when the young women (**yap-purra**) came along he asked them why they had fired the grass. They replied we are hungry and thought we would get some meat (**men-ya**). The man (**Boma**) said you have crippled me and I can speak no more. He lived for three days and the young women stood by. He then died and his body took the form of a large granite boulder on the north wall of which his brother tribesmen painted his portrait in red ochre (**woo-pa**) outlined and dotted with yellow ochre (**murra-ka**).

This painting of **Kannan-durra** still exists on the north side of the rock and was drawn by me and described as North Wall of No. 1 Gallery, Bare Hill, North Queensland.

This particular rock is in an isolated position in the north slopes. The other galleries are on granite outcrops partly connected with each other.

Stachytarpheta Urticaefolia And Stachytarpheta Jamaicensis

By H. FLECKER

In 1943 two specimens were forwarded to the Government Botanist in Brisbane labelled respectively:-

8093, erect herb, 3 feet high leaves bright green, sharply serrated, resembling **Urtica**, flowers bright blue, Collins Avenue, Edge Hill, H. Flecker, 1.5.43.

8094, herb, somewhat recumbent, leaves pale green, more than twice as long as wide, sharply denticulate, rather than serrate, do not resemble **Urtica**, flowers pale blue, Collins Avenue, Edge Hill H. Flecker, 1.5.43.

Although these plants did not look alike and attention was specially directed to these differences they were both determined as **Stachytarpheta dichotoma**, Vahl On previous occasions one or other of these had been repeatedly determined also as such.

Presumably one or other, or both of these plants represent the **Stachytarpheta dichotoma**. listed in the Standardised Plant Names issued by the C.S.I.R. as Blue Snake-weed, whilst **S. mutabilis** is listed as Red Snake-weed.

Dr. Harold N. Moldenke, who until recently was Curator of the New York Botanical Garden Herbarium has made a special study of Verbenaceae; accordingly sheets of these two specimens were forwarded to him, and the following is his report:-

8093 **Stachytarpheta urticaefolia** (Salisb.) Sims.

8094 **Stachytarpheta jamaicensis** (L.) Vahl.

"As you have probably discovered if you have tried to identify these from literature or in herbaria, these two species have been hopelessly confused in the past. **S. jamaicensis** is chiefly American, while **S. urticifolia** is chiefly Asiatic, but now each is also found in the range of the other, although in lesser numbers. Hybrids are occurring between the two, complicating the picture even more. And so many authors on Asiatic plants have confused one or the other with **S. indice** (L.) Vahl which is something very different (I have examined Linnaeus' original type)."

Birds' Intelligence

THE CURRAWONG WINS

By GORDON F. LEITCH, Radical Bay, Magnetic Island

We are blessed with a large number of bird friends. In consideration of their keeping this area very free of insect pests we supply fresh water and a considerable addition to their food supply. The result is that at feeding time, our midday meal—anything up to forty hungry birds line up for their rations. Then the problem is to see that all get at least something. This is never done without much argument and quarrelling and the air is full of flapping wings.

The biggest contingent are the currawongs (Strepera), over twenty of these black knaves. Thieves, robbers, utter larrikins, but such hapy swaggering devils they get away with almost anything and sing about it afterwards. We have been giving them a series of intelligence tests lately and the results of one seems worth recording.

A piece of sinewy meat was firmly fastened to the end of a two foot length of cord and suspended from a branch of a tree. We made certain it could not be reached from any position even when swung on a wide arc and then let all comers at it.

The first were the butcher birds. They dived at it, snapping shreds as they passed, but soon tired of this and gave a kookaburra a free go. The first bird seized it and imitated a tethered aeroplane flying in circles, back pedalling and hanging on like grim death. Then he relaxed and hung for minutes a dead weight. Waking up he gave another violent display of back pedalling till, letting go suddenly, he landed on his tail with a thump to the amusement of his friends.

Two more kookaburras gave almost identical performances and vacated the field to the currawongs who had not been exactly patient.

The first bird tried the kookaburra's technique and hanging like a dead bird for minutes finally let go. Since then, though this experiment has been repeated many times, no currawong has ever tried to capture it on the wing again.

The second currawong was in the meantime industriously working on the knot on the bough but it beat him. Then he started overhauling the cord by reaching down and lifting. Of course as he released his grip for a fresh one he lost the advantage he had gained. This went on for a long time by many birds and fruitlessly and of course accompanied by much noisy advice by those waiting to have a go. Eventually one bird as he lifted placed his foot on the slack he had gained and reaching again at last secured the meat.

Whether the first holding of the slack was an accident we don't know, but it has been repeated again and again. Now it is a matter of minutes until the meat is devoured.

Another technique is seizing the cord as low as possible and moving along the branch till a second bird can reach the meat and hang it over a branch for security.

We have decided that these black rascals won the test and demonstrated a very high intelligence quotient. They use it for nefarious purposes in the garden and provide a constant battle of wits to save our papaws and tomatoes. But we love the jovial scamps just the same.

An Efficient Pest Destroyer

MAGPIE LARK (Grallina cyanoleuca Latham)

By GORDON F. LEITCH, Radical Bay, Magnetic Island

In early May, our vegetable garden was looking well. Everything was flourishing but so were the young grasshopper broods. The beach grass was alive with them. The red top gave them a good home and the sweet potato patch was almost hopping away. There was every sort of hopper known to science with a few extra thrown in. They cleaned up the young hibiscus shoots, many of the orchids and the soft young vegetables they found very tasty. The outlook was rather grim when the miracle started.

One morning two grallinas turned up, our little friends of almost every camp we can remember. Grallina, mudlark, Murray magpie and many other names, including the now universal pee wee. Next morning we counted five and we placed water vessels at ground level as we have no natural fresh water here. I should mention that in five years we have noted only two pee wees and they stayed but one day.

We noticed that our visitors were very thin and hungry and wasted no time sailing in to the grasshoppers. They jumped and dived and waltzed about, each move meant one hopper less and to our delight made the vegetable garden the centre of operation More pee wees arrived and we counted up to twenty nine one evening assembled on the beach before going to roost in the casuarinas. The result—absolute extermination of the order of the grass hoppers; even the big green and brown chaps (**Valanga**) are gone and the fighting crickets are missing. And we have no cabbage grub, no aphis, no bean fly, very few tomato grubs and never once have we used a spray. Last year at least once or twice a week we battled with some sort of pest using a variety of sprays.

We still have a few birds with us, sleek and fat and tame enough to pick up crumbs, shreds of meat and grains of boiled rice from between one's feet. Best of all they are accepted by the cats. Soon after their arrival one was taken but now the birds never give their bell-like warning shriek when Sheila stalks among them.

It is near nesting time and no nice muddy lagoons are handy so we expect soon to miss them from the midday roll up. The job they have done has been marvellous and of great value to us. What the value of the grallina population must be to Australia is incalculable.

I "dips me lid" to the little Pee Wee, a very lovable bird.

Little Kingfisher

By JOHN McLOUGHLIN

ALCYONE PUSILLA (Temminck)

This is the smallest of our kingfishers and is found in the Northern Territory, Northern Queensland and New Guinea, frequenting small secluded streams in dense rain forest or mangrove. When first alighting it bobs its head up and down about a dozen times or so and repeats this performance after every meal. Its shrill, piping cry is uttered whilst flying also a couple of times when alighting. It feeds on small fish, which it catches with great skill. The nest, difficult to locate is made in a hole in the creek bank or on a very well camouflaged stump, laying five small perfectly round glossy white eggs.

Expedition Through Cape York Peninsula (Contd.)

By DOUGLAS VEIVERS

Coen, nestled at the foot of the picturesque Mount White, is a small town of some fifty or a hundred people, supported partly by its cattle and mining industries, partly by the effort and energy of the then postmaster a big, genial fellow, who per medium of the press has done much to bring the area before the notice of the outside world. We "battled the breeze" together for some hours and swapped yarns, and eventually made a news item for his paper.

Most of our waking hours in Coen we spent in the quiet seclusion of the hotel bar but mustered sufficent time to scent out the few places of interest. The gold-mining centres of Buthen Buthen and Blue Mountains to the north were in the news at the time. good strikes of gold being made there. The old Great Northern mine in Coen itself was being reconditioned with a view to reopening. A gold mine was something new to me, and I spent fascinating hours inspecting them

Thirty miles to the south and west of Coen in the vicinity of Yarraden Station is the mining centre of Ebagoola, once a prosperous field, now silent and deserted, a typical ghost town. Al-

though producing abundant though poor quality gold at the time of their closing, no effort has been made to reopen the mines. and it is doubtful if the field will ever be prospected again.

While in Coen, we heard of an extensive scrub land some distance east, known locally as the Rocky Scrub, and we endeavoured to trek there, but it was inaccessible by vehicle and the distance was too far to be walked so the effort was abandoned upon reaching the outskirts. We did pass some patches of pine, some with good stands of timber.

These scrubs are the home of a magnificent Red Sided Parrot. **Lorius pectoralis,** found only from the Pascoe River to the Rocky River. The only common name by which I have heard it called is the Rocky Scrub parrot, and I did not see one at close quarters though I would have given much to have done so. Even on the wing, its bright colours are really striking.

We left the camp on the Coen River with some reluctance and once past the aerodrome resumed the same monotonous journey through the empty miles. A pause at the Archer River provided some respite with a refreshing swim in the cool waterholes, and a welcome meal of fish.

One of the more plentiful fish in these rivers is a kind of dew fish. The pools were full of them in great shoals, yet never did I see one greater than six or seven inches in length. If they grew any larger, which I doubt, then the larger fish must have exercised great care in staying out of the shallows.

The big freshwater catfish. **Tandanus,** is also a resident of the streams in this area. We caught several of them ten or twelve pounds in weight.

Rarest inhabitant of the region of the Archer is the Spotted Cuscus, **Spilocuscus nudicaudatus**, a small woolly member of the phalanger family, Phalangeridae which once thrived here but now its members are decreasing in numbers yearly.

Above the rock-strewn regions of the Archer River to Moreton Telegraph Office on the Wenlock River, the country changes but little, with the even iron-stone ridges permitting rapid travel. At what was once Mien Telegraph Office, a road turns east to Wenlock Gold Field and Portland Roads on the coast, port for the upper peninsula. We enjoyed rest pauses at both Wenlock and Moreton with all hospitality turned on for our benefit.

Just north of Moreton there is a short stretch of devil-devil or melon-hole country ideally suited for grazing. In the dry seasons, the surface soil opens up in cracks a few inches wide and some feet deep. With rain the distinctive black soil becomes very soft and very soggy.

As we passed on through the avenues of the so-called wild kapok trees, (**Cochlospermum**), in brilliant yellow bloom, we followed large herds of the big red kangaroos (**Macropus rufus**), very prolific hereabouts. They seemed contented to hop gently along before the truck, sometimes for many miles, before quitting the road.

Further on the land of the wet rivers begins, with scrubby rain forest areas surrounding the streams, and stands of cypress pine, (**Callitris**). Water is plentiful here, but northwards still where the streams are closer, the country grows moist and sour, useless for pasture or cultivation.

A familiar sight here are the emus in flocks. With our vehicle reaching fifty miles per hour along the ironstone flats, they outpaced us as they raced beside us with as much speed again.

The wealth of the plant life along the rivers should have been of the utmost interest to botany. One of the most curious is surely the Pitcher Plant, **Nepenthes mirabilis,** a long trailing crawler which grows in the soggy banks of the streams. At the end of each of its arum-shaped leaves hangs a pitched-shaped vessel with closely fitted hinged lid. These vessels fill partly with rain water and the insides are coated with sticky fluid. Insects are enticed into the vessels and slowly the lids close down, trapping them.

Round the Jardine River and its tributaries, the vegetation of the rain forest and forest park lands gives way to the so called "turkey bush", **Jacksonia thyrsoides** a short wiry shrub growing to several feet in height.

This is the land of the bustard

Eupodotis australis, generally called "plain turkey" one of the largest and best of game birds protected by the Fauna Protection Act to preserve it against extinction. As was formerly the case in most parts of Australia there are many hundreds of them here, occurring invariably in pairs. I have never seen a greater number of them together.

The swiftly racing Jardine proved to be no mean obstacle, but we negotiated it with difficulty, only to strike more trouble in the swamps across the river in the vicinity of the dark, forbidding Sanamere Lagoon.

Once out of the land of the "turkey bush", the country reverts to the grass land forest for the remainder of the Cape. The magnificent roads here are a left over from the army occupation, and what a blessing they were.

From our camp at the Red Island Point settlement, we toured the Cape, to Lockerby Station. Cape York Telegraph Office and Somerset. Apart from these centres, there was little of real interest in the area, except of course for the fishing and the coastal waters of the Cape are truly a fisherman's paradise.

A conspicuous bird here is the Great Palm Cockatoo, **Probosciger aterrimus,** restricted to Cape York, Aru Islands and New Guinea. Although jet black in colour, in its native state, its feathers have a brilliant silver sheen, and it is one of the prettiest birds I have noticed. At first we mistook them for "brush turkeys", **Alectura lathami.**

A self-supporting native settlement has now been formed in the vicinity of Red Island with populations from Saibai, of New Guinea which is slowly becoming less extensive in area owing to natural erosion. As distinct from Australian aboriginals they are used to agricultural pursuits and given suitable agricultural advice they are bound to make a success of the experiment.

Sooner or later the whole of the Cape York Peninsula will be exploited for its agricultural possibilities and of course it means much effort, time and experiment before it will share with other parts of Australia the prosperity which comes from intensive study of local conditions, provided of course proper access roads are provided.

A sharp, heavy shower of rain sent us scurrying away in haste on the long trek home.

Wild Nature Show

By S. DEAN

As part of the Seventy-fifth Anniversary Back to Cairns Week under the leadership of their indefatigable President, Mr. Alfred A. Read, the members of the North Queensland Naturalists' Club assembled a comprehensive and instructive display in the Remilton Horticultural Hall at the Parramatta Show Grounds on the evenings of Tuesday, 2nd, Wednesday, 3rd, and the afternoon and evening of Saturday, 6th October, 1951, anniversary of the date of the official recognition of the birth of Cairns in the year, 1876.

The displays were zoological—comprising ornithological, herpetological, with marine specimens, especially conchological and carcinological, also lepidopterous exhibition; whilst botanical, mineralogical and ethnological collections were also evident, attendants being on hand to pass on their acquired knowledge to those of the interested public.

The mounted birds, many of them by a great artist, Robert Rijkers, comprised a beautiful specimen of the Wedged Tailed Eagle, **Uroaetus audax,** in life like position preparing for flight, held pride of position in a conspicuous roost soaring over the other birds; others not often seen alive were Channel Billed Cuckoo, **Scythrops novae-hollandiae;** White-tailed Kingfisher, **Tanysiptera sylvia;** Little Kingfisher, **Alcyone pusilla;** Tawny Frogmouth, **Podargus strigoides;** Victoria Rifle-bird **Ptiloris victoriae;** etc.

The saurians were represented by the two species of crocodile, **Crocodilus porosus** and the smaller **C. johnsoni.**

Mr. Berkeley Cook had charge of quite a lot of live snakes, including the black headed **Aspidites melanocephalus,** and as a whole attracted a lot of attention. The quaint little desert devil, **Moloch horridus,** was shown Constrictors as well as venomous and non-venomous species were shown. A really fine python, **P. amethystinus,** of great length which had dined well as was evidenced by a conspicuous bulge in its interior could not stand the jolts due to transport under such circumstances while in a somnolent state and succumbed in transit and so could only be exhibited upon the first day, as its presence was being sensed before it was seen. Under the circumstances a young wallaby nearby, very much alive and active must have felt fairly happy, or so it seemed.

A very charming exhibit was that of the shells shown by Mrs A. A. Read, which should surely appeal to those who have no knowledge whatever of matters conchological. A great variety of shells backed up by various forms of coral from the Great Barrier Reef appealed much to the aesthetic taste of visitors.

The bottled specimens were arranged by Mr. A. A. Read, and comprised mostly crustacea, fish etc. The notorious and dreaded taipan was closely examined and commented upon, and was fortunately still!!! in spirit. A good bottled specimen of 14 eggs of the Python, all stuck together as appears to be usual with this snake showed the baby pythons all emerging from their respective eggs simultaneously!

Gordon and John McLoughlin were responsible for a fine display of butterflies and moths comprising some from the other states as well as some from overseas. The North Queensland lepidoptera were likewise well represented.

One of the brightest features of the show was a magnificent display of North Queensland orchids exhibited by the North Queensland Orchid Society. As a group they will compare favorably with exotic orchids. The Dendrobiums were particularly conspicious, especially, **D. undulatum,** the Golden orchid, the chief glory of these parts, and also the canary colored variety, **broomfieldii, D. toffii,** with its lovely blooms, and some half a dozen other beautiful species of the genus; **Cymbidium iridifolium, C. Suave** and **C. canaliculatum,** were also exhibited in bloom. A well grown ground orchid, **Dipodium ensifolium,** three feet high was exceptional, whilst numerous specimens of the smaller local orchids were on show.

Native plants of the region included cut flowers of this area also many palms, ferns, etc.

The Natural History Section of the Royal Society of S.A. sent a representative collection from Adelaide including a selection of ground orchids, also species of **Grevillea, Daviesia, Pultenaea. Craspedia,** etc., which are not often seen in these parts.

Desert plants from Broken Hill sent by the Barrier Field Naturalists' Club were much appreciated, and included, **Clianthus speciosus, Ptilotus obovatus, Cassia sturtii, Acacia saligna,** and other well known plants of the region

The minerals were under the charge of Mr. George Atkinson and comprised many specimens common throughout North Queensland, including tin oxide, wolfram, copper and silver containing ores, etc. These made a good display.

The ethnological exhibit was provided in large part by the staff of the Monamona Mission Station, spears, boomerangs and the like being on view, but there were also many native implements mostly wooden, from New Guinea and the neighbouring islands.

The whole exhibition, being as it were a resuscitation of larger displays in earlier years of the club, it is hoped will be the forerunner of many more such, and if the comments of the public are any criterion, then the club must make a special effort in this direction, especially for the benefit of the visiting tourists, for it is only in the summer and autumn of their lives that visitors make the long deferred trip to North Queensland when they are in the best mood to appreciate the works of nature and look for these displays, especially the products of the world renowned Great Barrier Reef. Finally it is earnestly hoped that those country members of the

club who read this will bear in mind that all items of interest which they may garner from time to time will be gratefully and appreciably acknowledged when forwarded to be identified and exhibited with our ever growing collection.

TOWNSVILLE AND DISTRICT NATURALISTS' CLUB

The Club meets on the first Friday of each month in the Adult Education Centre Lecture Room, Wickham Street, Townsville.

President, Mr. K. Kennedy, Esplanade and Rose Streets, Kissing Point, Townsville. Hon. Sec., Elizabeth Kennedy, Box 178, Townsville.

Lectures and Field Days

June Lecture: Miss Nancy Hopkins spoke on Naturalists' Notes on the Eungella Range. After describing the forest on the mountains at the back of Mackay and mentioning that she caught a glimpse of a platypus, she told of the various species of birds she had observed in the vicinity of Eungella township. In addition to normal rain-forest birds, ibis occasionally visited the range, and even a bird of the swampy coastal areas, the masked plover, was seen. She also described the butterflies in the vicinity.

Mr. Black's monthly report from Hughenden was read, and articles of nature study tabled by members were the nest of the mangrove warbler, nest of a warbler (unidentified), a cotton bug and its eggs, a migrant cuckoo found dead at Stuart, and a spiny sea urchin.

The Field Day was to the Town Common.

July Lecture: Bush rambles was the title of the talk given by Mr. R. Sleigh. The rambles covered the area between the Bohle River and Rowes Bay. Mr. Sleigh said that never in all his experience of bird life had he seen so many different genera and species gathered together in one spot as when last he had visited the lagoon near the entrance to the Town Common.

Miss Hopkins gave a report of birds observed on the Club's last field day and read the Hughenden report. Mr. J. J. Selvage read a letter and showed a microphotograph of a feather from the lilac coloured crest of the North Queensland Spotted Bower bird which he had received from Dr. A. J. Marshall, of St. Bartholomew's Hospital Medical College, London. The latter told of some aspects of the doctor's studies in the habits of these birds.

The Field Day was to Garbutt and District.

The August Meeting of the Club took the form of a Members' night.

There was an exhibit of a collection of aboriginal artifacts, an illustrated pamphlet by the U.S. Department of the Interior, depicting animal life in Alaska. Some shells from New Zealand and a letter giving data of natural history of Hughenden, and a talk on dinosaurs from the amphibians of the late Carboniferous Period.

NORTH QUEENSLAND NATURALISTS' CLUB

Meets at School of Arts, Lake Street, Cairns, usually on second Tuesday in each month at 8 p.m.

Meetings

11th September, 1951, Annual General Meeting: In moving the adoption of the President's Report, Mr. J. M. Gray made glowing reference to the work of President A. A. Read and his sentiments were supported by Dr. H. Flecker. The Treasurer's report, submitted by Mrs. A. A. Read, disclosed a very favourable financial position, and was indicative of close attention to the office.

Officers elected as follows: Patron, Dr. H. Flecker; President, Mr. A. A. Read; Vice-Presidents, Mr. J. M. Gray, Dr. H. Flecker, Mr. A. B. Cummings; Treasurer, Mrs A. A. Read; Secretary, Mr. J. Wyer; Organising Secretary, Gordon McLoughlin; Press Corres-

pondent, Mr. D. R. Peiniger; Committee, Messrs B. Cook, R. Gorton, McLoughlin Sen. and Mr. Reichhardt.

The Flecker Natural History Medallion was presented to John McLoughlin by the Patron, who complimented him on his contribution which appeared in the last issue of this journal.

It was resolved to seek the co-operation of the Queensland Naturalists' Club and the R.A.O.U. to prevent the planting of coconuts and/or other trees which are bound to disturb the breeding of the colonies of terns on Michaelmas Cay.

Referees were nominated for the following fields: Astronomy, H. O. Barkus; Mineralogy, G. Atkinson; taxidermy, R. Rijkers; ornithology, John McLoughlin; herpetology, Berkeley Cook; conchology, Mrs. A. A. Read; carcinology, A. A. Read; coleoptera, J. G. Brooks; lepidoptera, Gordon McLoughlin; botany, Dr. H. Flecker, Hugh Read; ethnology, Douglas Seaton; library, D. R. Peiniger.

9th October, 1951. Account of trip to Cooktown by Mr. A. A. Read. 13th November, 1951. Resolved to raise funds for purchase of sound projector.

Exhibits: Case of beetles, Death adder, **Acanthophis antarctica,** by J. G. Brooks, F.R.E.S. a live Leaf tailed gecko, **Gymnodactylus phyllurus,** by Harry Skinner of Herberton; fragment of large fossil Ammonite from Mt. Musgrave by Tom Mitchell: aboriginal stone grinding mill presented by Mrs Wilesmith of Sellheim; head of taipan, **Oxyuranus scutellatus** from Edge Hill; collection of West Australian ground orchids, pressed and dried by Mrs. Erickson of Bolgart; **Elaeagnus latifolius** with edible fruit by Miss Burkitt from Evelyn Tableland; an expertly mounted specimen of the Yellow-Billed Spoonbill, **Platalea flavipes,** by Robert Rijkers collected by John McLoughlin.

NEW MEMBERS ELECTED: 9th October: G. F. Leitch, Horse Shoe Bay, Magnetic Island; W Rijkers, Cairns; John Fitzharding, 161 Grafton St., Cairns; Miss M. Felstead, 161 Grafton St. Cairns; Mrs. Chirrell, 161 Grafton St., Cairns.

13th November: Walker, Kairi; J. A. Marsh, Box 134, Atherton

EXCURSION TO MOUTH OF MOWBRAY RIVER. Fine weather prevailed and the expedition proved very successful.

PUBLICATIONS BY N.Q. NATURALISTS' CLUB

1. CHECK LIST OF NORTH QUEENSLAND ORCHIDS .. PRICE 1/-
2. MARKETABLE FISH OF TIE CAIRNS AREA .. .. .. PRICE 1/-
3. CHECK LIST OF NORTH QUEENSLAND FERNS .. .. .. PRICE 1/-
4. EDIBLE PLANTS IN NORTH QUEENSLAND .. .. PRICE 2/-
5. LIST OF BIRDS OCCURRING IN NTH. QUEENSLAND .. PRICE 2/-
6. LIST OF AUSTRALIAN DRYOPIDAE .. .. PRICE 6d.

Sunday Australian Printery.

The North Queensland Naturalist

The Journal and Magazine of the North Queensland Naturalists' Club

VOL. XX. **MARCH, 1952** **No. 100**

The Broad Headed Snake.
Hoplocephalus Bungaroides (Boie)

Marine Coral Spider

Desis crosslandi Pocock

By ALFRED A. READ, Cairns. President North Queensland Naturalists' Club

If there is anything which could hold a promise of greater interest to an amateur naturalist than a new stretch of inland bush country or a fresh region along the tropical coastal belt, perhaps it is to find oneself on a coral island with fourteen days of unrestricted joy ahead during a season of perfect tides and where one can wander over the exposed coral reef for from five to eight hours each day. Such a prospect presented itself to me on the morning of 13th July, 1947.

With my wife and son, Hugh, I arrived at our island, Low Island by launch from Port Douglas at about 9.30 a.m. and before midday had our camp nicely fixed and snugged down, partaken of a light luncheon and set out on the ebbing tide with our collecting buckets, small specimen bottles, reef hooks (for lifting rocks), and some sandwiches and fruit in our pockets.

My main interest was the crustacean life which abounds everywhere on the reefs from the little chaps smaller than a pea to the big mud crab, **Scilla serrata** as large as a soup plate.

Before leaving Cairns, I had mentioned to Dr. H. Flecker my intention to make this trip, and he requested me to keep a look out for a marine spider, which he reported he had found hundreds of yards from the shore which had emerged from broken fragments of coral and had clambered up, dry (!!!) over his clothing, during a previous trip when he visited the locality at a particularly low tide a year earlier.

I was interested, but felt rather sceptical about a spider which could live out on the reef and under water, but politeness forbade me expressing such a feeling, but had it been anyone else except the doctor who might mention it. I may not have thought any more about the mat-

ter, but my curiosity kept mounting all the time.

Our first and second days on the reef were mainly taken up in general exploration and the collection of specimens which we could bring back to camp for further study in the evenings.

It was on the third day that we decided to keep a really serious lookout for this spider, for by that time we felt we could get down to more specialised observations. Young Hugh saw the first one; he gave a call but by the time I had reached him, the little chap had darted into a crevice in the coral. Not long afterward, my wife, who was looking for shells by turning over varicus old debris with her reef hook, happened to turn over a complete old dead horseshoe clam (**Hippopus hippopus**), and as the two halves fell apart, there we saw an adult spider and a whole host of small ones of two distinct sizes. During the next few moments of hustle and bustle, I managed to secure the adult and smaller ones of two different sizes into test tubes. Needless to say, my scepticism had completely vanished.

Through keeping more or less a look out for them, we saw quite a number during the remainder of our stay and in all I managed to capture five adults to bring back. Subsequently we learnt that it belonged to the genus **Desis**, and had been determined as **Desis crosslandi**. Dr. Yonge's expedition in 1931 to Low Island had found some specimens, and six species are known in Australia. It appears to have been originally discovered in Zanzibar in 1903. They are found in other places along the Eastern Australian coast, and I have since found them at Double Island as well as at Green Island.

Although unknown to us, the little arachnid was not new, it was quite interesting making further observations. On one occasion, during a very low tide, I had noticed several spiders on a certain part of the reef, which was not uncovered again for five days, and immediately it was I hastened to look around to ascertain if they were still there, and sure enough they were! It was perhaps foolish of me, for where I had found them in the first place they would be submerged for days, perhaps weeks at a time, but still one must put this down to my amateurish doubts, for wanting to confirm these facts. On another occasion when the tide came in during the afternoon and the water was very calm, I obtained permission to take the island dinghy to row over the island patch to see if any of the spiders were running over the surface, but there was no sign of any.

They build a fine tough little web, for they belong to the family of funnel-webbed spiders, in the usual manner of these arachnids, not, I feel sure for snaring food, for since that time I have watched them and, one little chap in particular, darting in and out of the rocks in a very lively manner pounced on a small mantis shrimp, **Squilla nefadia**, which was at least half an inch longer than itself and disappeared with it into a hole in the rock.

One of the specimens which I kept in a test tube which I had half filled with sea water and into which I also placed a piece of dead coral, was still alive eight weeks afterwards. At the top of the tube immediately beneath the cork, in which a small V shaped window had been cut to allow for the entry of air, it built a web, and thinking to help with its food supply, I inserted several fruit flies which I had caught, placing one in the V shaped opening of the cork and pushing it so that it slightly protruded into the tube. Later I noticed the spider approach the fly, appearing to examine it, and to my surprise pushed it back out of the opening altogether. Next, I pushed another fly right into the test tube, when it fell on to and rolled off the web into the water below. The spider never attempted to bother about the fly after this. On this occasion I was interested to note that the web seemed to have not the slightest semblance of stickiness about it, for the fly simply rolled off it with ease. Another point of interest was that they always appeared singly, although I have seen as many as five spiders on the one large "nigger head" and all very active and busy, not seeming to waste one moment of the dry spell between the tides.

Taking things as a whole, although we were not discovering anything new to science, these little spiders were new to us, and even now we look back to our stay on Low Island with the pleasurable feeling of having added another little story of knowledge of the creatures of the Great Barrier Reef.

Notes from Mt. St. John Sanctuary

By NANCY HOPKINS, Townsville.

The crocodiles at Mt. St. John are building a nest. This, in Mr. Robinson's experience, always portends early rain. Nowhere will it be more welcome than at the Sanctuary, as the big lagoons have shrunk to mere waterholes, which, however, still harbour thousands of ducks.

Long after the rarer waders and waterfowl have left the Common with the dwindling of its lagoons, they will be found on the lakes of Mt. St. John, which are perhaps most interesting during the winter months when the bird life becomes more concentrated. A few species are not seen elsewhere in the district. This year I noticed especially the Coot (**Fulica atra**) — not to be confused with the Eastern Swamphen or "Bald Coot" (**Porphyrio melanotus**) a commoner and more showy bird. I have not seen the Coot on the Common. In other years there have been a few at the Sanctuary, this year they were there in hundreds. The Black-tailed Native-hen (**Tribonyx ventralis**) was a new find, but I have no doubt that many rail-like birds escape observation.

The White-quilled Pigmy-goose (**Nettapus coromandelianus**), was still present, during the winter, also, I think, the Green Pigmy-goose (**N. pulchellus**), which was more difficult to identify far out in the lake. Both species were on the Common during the summer rains, but had moved on by the end of January (1951), possibly because they were subject to disturbances.

Mr. Robinson tells me that during the duck-shooting season flocks of Pink-eared Ducks or Widgeon (**Malacorynchus membranaceus**), fly in to the Sanctuary, evidently coming from the Cromarty district. As they keep to the middle of the lake they are not easily seen. Old hands say that these ducks and the Pigmy-geese were much more plentiful in the past.

On the other hand, the Glossy Ibis (**Plegadis falcinellus**), a rare bird here a few years ago, has increased, and this year there was a flock of about one hundred on the Common until July, and many at Mt. St. John at a much later period. The lovely little Lotus-bird (**Irediparra gallinacea**), which has reached large numbers in recent years and has been breeding in every swamp, gradually disappeared as the swamps dried, migrating, Mr. Robinson believes, to permanent water in the basalt country. Whereas the Glossy Ibis is a nomad, the Lotus-bird stays with us when the seasons permit, and this is the first time for years that it has been entirely absent.

All of the birds already mentioned have now departed, as also have the Black Swan (**Chenopis atrata**), and the Pied Goose, (**Anseranas semipalmata**). Both of these breed at Mt. St. John. I counted nearly a hundred swans on the big lake one day in July, but the geese, as usual, were there in thousands. The geese feed on Panicum grass which has been specially planted for them around the lagoons.

The pelicans were missing today, the cormorants and waders were but a remnant of the old flocks, and I noticed no Black Ducks — the lagoons swarmed with young black ducks in June — but the Whistling Ducks still gather round the pools in thousands. "Many thousands" was the only estimate I could reach. They appeared to be all of the one species, the Plumed Tree-duck (**Dendrocygna eytoni**). The Whistling Tree-duck (**D. arcuata**), is never as numerous as the Plumed, and I doubt whether it ever forms part of the big flocks which muster on the banks of the lagoons, being usually scattered through the swamps in small groups. While **D. arcuata** is darker and more vividly colored than **D. eytoni**, and less conspicuously plumed, a simpler means of identification is the colour of the

legs, which are black in the former and red in the latter. One or two "black-legs" were flying about the pools in the zoo to-day. Only one Grey Teal (**Querquedula gibberifrons**), showed itself, but some distance away a tiny army of Maned Geese or Wood-ducks (**Chenonetta jubata**), marched over the plain.

Among the ducks at the water's edge were small numbers of spoonbills, ibis, stilts and cormorants. A small flock of swamphens roamed here and there, and were going to roost in the bamboos as I left. Even in its present dry condition the Sanctuary is alive with interest, for it is still an oasis, and a safe haven for all types of bird.

In a patch of reeds in the Zoo portion, a small unidentified bird played hide-and-seek with me, reminding me that it was here that I saw and heard for the only time that lovely songster, the Australian Reed-warbler (**Acrocephalus australis**), a migrant and probably only a passing visitor.

Another rare visitor which I have seen only at Mt. St. John, is the Red-kneed Dotterel (**Erythrogonys cinctus**), a bird not often seen in coastal areas. There were two, and I recall that they were chasing the Black-fronted Dotterels (**Charadrius melanops**), from their rightful territory along the margin of what is now the big crocodile pool. To-day the latter were in unchallenged possession, foraging calmly a few feet from a crocodile snout.

Further up the bank there is a pile of grass, which the crocodiles have pulled and stacked in readiness for nest-making. In a wire-covered enclosure some distance away are last year's baby crocodiles, eight months old and about sixteen inches long. Six remain out of a clutch of nearly forty which hatched out late in April. That is probably much higher than the natural rate of survival. To begin with they were protected at birth from the old male crocodile, who at the first sound of hatching took up his position beside the blockaded nest in expectation of a meal. Elsewhere there is one young crocodile, rather less than three feet long, which is a survivor from the previous year's clutch, not necessarily the sole survivor, as many are sent away.

Not far away, the Brush Turkeys (**Alectura lathami**), have built a mound which almost fills their enclosure. It has been there for months at least, but I do not know whether any eggs have been laid. As the mound appears to contain more earth than vegetable matter, they probably would not hatch in any case.

Normally all water from the zoo is pumped from the lagoons, but after eleven months drought this is not considered up to standard, and drinking water for the zoo animals is now being carted. How cheering then is the crocodile prophecy. Very soon, we hope, the lagoons will be full again, and an endless joy to bird-lovers.

N.B. This was written on 6th January. The rain fell heavily from the 15th January onward and thus the drought was broken as prophesied.

Book Review

26. TRAVELS IN NORTH QUEENSLAND, by Jean Devanny, 251 pp., 25 full page illustrations, Jarrolds Publisher (London) Ltd. The authoress divides the book into two parts. Part I deals exclusively with the Great Barrier Reef as she has experienced it at Green Island and Low and Woody Islands. She is very much interested in the fauna in particular and describes with much detail all the various items, and has taken some trouble to ascertain the identities of the objects which she describes. The difficulties under which photographers, particularly cinematographers contend are set out, and the most interesting features and creatures described in their natural surroundings. She has a humour and entertaining style all her own, and the reader cannot help finding much of exceptional interest. Most of the objects can be readily identified from her descriptions, and the biological names included do not detract from its value and interest. Numerous fine photo-

graphs add greatly to the value of the book. The second part of the book deals mostly with the inland, the west and the Gulf country, describing the pastoral country and industries. However, she is not as competent at dealing with the natural history of this area as she is with the Great Barrier Reef.

North Queensland Naturalists' Club 1950-1951 Annual Report

By ALFRED A. READ, President.

I have much pleasure in presenting this nineteenth annual report of the North Queensland Naturalists' Club for the year 1950-51.

At the beginning of our year, we all had very grave misgivings over the health of the Club's founder. Dr. H. Flecker, and for a time those misgivings verged almost to despair, but I am sure we all feel that we have a lot to be thankful for that he has been spared to be with us on the occasion of the 1951 annual meeting.

Throughout the doctor's illness, the club missed one of its quarterly publications, that was for the Christmas or December, issue 1950. I found it necessary to edit the March issue myself and then Dr. Flecker felt well enough to carry on. Since then that part of the club's activity has been handled by him as usual.

As regards the ordinary business of the club, we started the year with a full complement of officers and although we were very sorry to lose two very active members in the persons of Messrs H. Burns and J. Toogood, others stepped forward to record the good will and harmonious feelings which have existed with the committee through the year.

We started the social side of our activities with a Christmas party. not with the idea of just a convivial evening but with two main objects in view, one as a thanksgiving for the improvement in health of Dr. Flecker and the other to do honour in some small way to our Honorary Secretary, Mr. J. Wyer. For eighteen months these two gentlemen carried on without stint in their efforts to make the Club as widely known as it is to-day and we felt that we all really appreciated what they had done. Even at the inception of the idea and throughout the correspondence stage, the response was really wonderful. There were well over seventy attended from Cairns and the surrounding district together with financial help and goodwill messages from every state in Australia, truly a gratifying achievement.

Our field outings have not been as anticipated, there being only three in number, one to Brown Bay, one to Wright's Creek and one to Davies' Creek, which were all well attended and although there were several private excursions, these are not the same. We are still troubled with a paucity of transport which has been our main drawback.

The monthly meetings have been held regularly and some very varied and interesting talks were delivered. Mr. Cliff. Cantrill gave us a talk on Astronomy; Dr. H. Flecker on "The Wannakai" (Finger Cherry); Mr. A. Read on "Biological Nomenclature", Dr. Flecker on "Mollusca", Mr. George Wilson on "Scientific Aspects of the Sugar Industry" and Mr. D. R. Peiniger on "Bird Habits".

During the year, the Club instituted an annual competition to be competed for through the medium of the Cairns Show Society at their Annual Show to be known as the H. Flecker Natural History Medallion and will carry a cash prize of two guineas and a suitably inscribed medallion. This is open to all young people up to the age of twenty years. The subject matter is left to the individual choice of the entrant and must cover some phase of natural history. The award will be given to the candidate who gives the best evidence of observation or original research and is not based upon literary merit. The judges, appointed by the club, will have the right to make no award should the entries fail to reach the required standard. The article from the successful candidate will be published in the

North Queensland Naturalist. Not many entries were received for this, the first year of the competition, but I am pleased to state that it was won by one of our junior members, John McLoughlin.

Other functions of the club during the year were the usual classifications and determinations besides requests for specimens for exhibition purposes. Thus the R.S.S.A.I.L.A. at Gladstone requested a live crocodile and bottled specimen of taipan which were supplied after some trouble. The Cairns Branch of the R.S.S.A.I.L.A. requested a small natural history display at their Edge Hill carnival which we were pleased to supply.

Special Air Freight parcels of named plants were sent to Broken Hill and Adelaide for special display there.

The preliminary work in connection with our own Wild Nature show which is to take place in the "Remington Hall" on the Show Grounds during the festivities of the "Back to Cairns" week, which will be the first week in October, is well in hand and we have had promises of help from other States in Australia in the form of specimens of local flora and fauna from their respective states.

This, then is my report on the activities of the club during the past year in which I have been in office and I feel sure that whoever carries on in my place during the coming year will have the same whole-hearted support from the officers and members as has been extended to me and I would like to take this opportunity of again thanking all concerned for making my term as pleasant as it has been.

The Broad-Headed Snake

Hoplocephalus bungaroides (Boie)

Also known as the Fierce Snake, and the Night Snake

By WILLIAM HOSMER, Jun.

RANGE. Eastern Australia only. Recorded as far south as Helensburg on the south coast of New South Wales, and northward to the Lamington National Park in Southern Queensland. Although no reports are to hand, the author believes that specimens may occur further north than the Lamington Plateau. The Broad-Headed Snake is a coastal species, and is most common east of the coastal ranges. It appears to be fairly common in the rocky districts south of Sydney, several specimens having been collected at Waterfall and Helensburg. Others have been taken at Lawson and Wentworth Falls in the Blue Mountain Range west of Sydney. One specimen was collected at Tenterfield in the northern portion of New South Wales in 1950.

RECOGNITION CHARACTERS. Head very flattened, and considerably wider than the neck; body thickness moderate; tail round and moderately tapered. This snake may be confused with the Diamond Snake of New South Wales, **Morelia spilotes**, but may be distinguished by the presence of large regular head plates which are absent in the Diamond Snake. The eye pupil is circular.

COLOUR. Usually black above with linear markings of yellow forming crossbars. On the sides of the body these yellow markings may be chevron-shaped, or they may take the shape of hourglass outlines, whilst in others the pattern may be broken up giving the effect of yellow spots and blotches. The head is black above splashed with yellow, whilst below, the head and neck is yellowish. The ventral plates are greyish in colour with a spot of yellow at each end. The last costal row of scales are yellow edged with black. These usually lose their brilliance posteriorily and may fade out completely. The tail may, or may not have spots of yellow on the dorsal aspect.

SCALATION. Scale rows 26, 21, 15, occasionally 27, 21, 15, these being smooth. Ventrals range from 206 to 221, strongly angulate, and notched at each end. Subcaudals range from 40 to 56, average 48, all single. The anal is entire. Frontal one and a half times longer than broad; the nasal may or may not be divided. Supralabials 6, infralabials 6. The third and fourth supralabials enter the eye. The second and third infra-

labials touch the anterior sublingual and the third infralabial just touches the posterior sublinguals, whilst the fourth infralabial is in complete contact. The vertebral scale row is the same size as the costal, except that in some specimens the vertebrals may be enlarged a little anterior to the base of the tail.

SIZE AND DIMENSIONS. Grows to about 5 feet in length, averaging four feet or less. The dimensions of a young adult female are as follows:

Total length — 29 inches.
Length of tail — 3¾ inches.
Diameter of body — ¾ inch.
Width of head — 5/8 inch.
Length of head — ¾ inch.

HABITS AND HABITAT. The Broad-headed Snakes are particularly partial to rocky localities, where they hide during daylight among the crevices and fissures, emerging in the evening shadows in search of food and water. Young specimens usually prefer shelter beneath flat stones and broken pieces of rock which lie on bare rock surfaces. Their diet consists of lizards, chiefly nocturnal species but they may also take mice and birds. As indicated by the ventrals, these snakes are semi-arboreal, and in captivity they appreciate a branch or several twigs on which they travel with all the grace and experience of a green tree snake or python. Large specimens probably ascend trees at nighttime in search of birds. The broad-heads are usually very hardy in captivity taking food regularly and indeed too regularly if given the opportunity. Of the six specimens in the writer's collection, two had to be put on strict rationing to break down their gluttonous tendencies for expert experience had taught that some snakes act more like hogs, surely an unhealthy habit. On the other hand, one specimen recently captured measured only 17 inches in length and had not been observed taking food and had to be forced fed by introducing a small skink into its mouth, which it devoured without delay. Twenty minutes later a crying noise in the cage indicated that a gecko was in trouble. Lifting a slab of rock which had been placed there to protect the snakes from the sun, the writer discovered the same snake engaged in a further feed. The gecko, whose head was easily twice as wide as that of the snake was quite dead, but the snake took no chances and waited patiently for a further ten minutes, after which it began the process of devouring. Anyone who has never seen a snake eating would have been amazed if he could have watched this feast. Working each jaw separately, the snake moved the gecko from the position previously held, and worked up towards the head, this coming into line with the snake's jaws. Part one of this process having been completed, the rest follows relatively easily. In like manner, each jaw operating alternatively, the head was quickly engulfed within the snake's very elastic mouth, and drawing in the gecko's stout body, the head was forced into the neck stretching the skin so that the scales appeared to be greatly separated. Once in the neck, the snake can help draw the prey down by forming an S shape just below the head, and with the aid of muscles the prey makes its way down the body to be received by the stomach. The bulge in the body of this little snake took four days to disappear.

The Broad-Headed Snake is bold and fearless when captured and attempts to strike repeatedly at its captor. It still exhibits aggressive tendencies long after most other snakes would have become tame. When angry, it draws the head back, and moves its jaws in a chewing motion, showing the large bulges on either side of the temporal area indicating the location of the venom glands. Observing the "chewing" in anger, the writer thinks this to be a nervous reaction when the snake is tense and "at the ready" for the lunge forward. Unlike most other snakes, it likes to retain its hold for some considerable time, giving it a chance to inject a large amount of venom.

VENOM. In the past, writers have paid little or no attention to the virulence of the venom. This may be due to several reasons:

1. The species is by no means common, that is, not so common as the majority of large venomous snakes.

2. It is chiefly nocturnal in habit, restricting its wanderings to unpopulated areas, where it

very rarely comes into contact with man, being unlike the death adder, tiger, black and brown snakes which frequently invade the vicinity of dwellings in search of rodents.

3. As far as the writer is aware, there have been no reports of fatalities from this snake, but several persons known to him have been bitten by small specimens, some of which were very painful. Judging by the effects sustained, large specimens could inflict bites which might easily be serious and dangerous to man.

In a series of experiments carried out the writer found that lizards are more quickly subdued by an injection of venom from the Broad-Headed Snake than from the same quantity of venom taken from the Copperhead Snake **Denisonia superba.** The Copperhead is rated deadly to man, and no doubt injects much more venom at a bite than does the Broad-Headed Snake. Investigations are being carried out on the venoms of this and other species of snakes. Treat the snake with great caution, and attend to bites in the manner prescribed for dangerous snakes.

GLOSSARY OF TECHNICAL TERMS, referring to scales of snakes and lizards. ANAL. Of or pertaining to the anus; the scale covering the anus at the base of the tail.

ANTERIOR. Situated near or toward the head.

COSTALS. Rows of scales between the ventrals and the vertebral or medium dorsal scales.

FRONTAL. Large plate on the head, shield like.

INFRALABIALS. Scales on the lower lip.

NASAL. Scale which is pierced by the nostril.

POSTERIOR. Situated near or toward the hinder end of the body.

SUBCAUDALS. Scales on the ventral surface of the tail.

SUPRALABIALS. Scales on the upper lip.

SUBLINGUALS. Chin scales, situated between infralabials.

VENTRALS. Belly scales, or series of scutes on the belly.

VERTEBRAL. Row of scales down the middle of the back.

APPEAL

The writer will be very pleased to identify and return any snake sent to him, and would be most grateful for any information regarding the localities of snakes, many of which are rare, in some cases there being only one specimen.

North Queensland Naturalists' Club

[illegible] at School of Arts, Lake Street, Cairns, usually on second Tuesday in each month at 8 p.m.

MEETINGS: 11th Dec., 1951, Plans for itinerary arranged for 18 visiting naturalists from Sydney and Melbourne under leadership of Mrs. P. Messmer explained. Club participating in outing to the Boulders at Babinda, on Sunday, 27th July, next.

3rd Jan., 1952. Decided to seek co-operation of Royal Zoological Society in drawing up code of safety for handling dangerous snakes, and to seek legislation prohibiting the keeping of snakes in captivity without a special licence.

Exhibits were (a) Skulls of venomous and non-venomous snakes. (b) Photographs of rare ground orchid taken by Mr. Lionel Law, **Eulophia carrii.** cultivated in Cairns. (c) Skull of dugong. (d) Hairball from bullock's stomach. (e) Marine Spider, **Desis crosslandi.** (f) Beak of hawk's bill turtle, **Charetta imbricata.**

12th February, 1952. Exhibits: (a) Angler Fish, **Antennarius siriatus,** (c) Bat **Nyctimene norfolkensis,** Orange sucking moth, **Ophideres.**

NEW MEMBERS ELECTED. 11th December, 1951. G. D. Henry, Tully; 8th January, Miss Eileen Mary Wall, 108 Abbott St., Cairns.

Sunday Australian Printery.

The North Queensland Naturalist

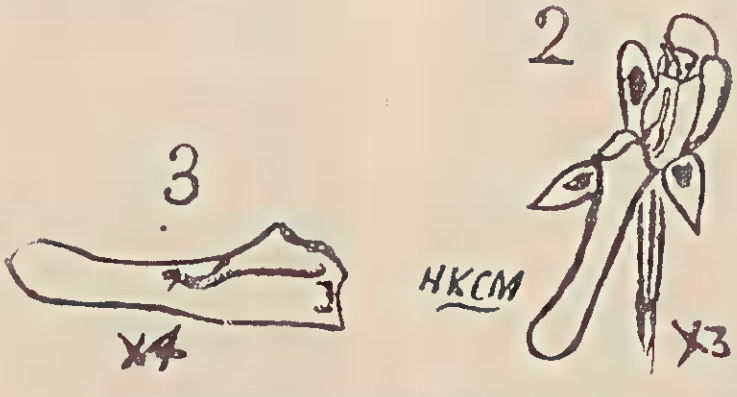
The Journal and Magazine of the North Queensland Naturalists' Club

VOL. XX. 1st JUNE, 1952 No. 101

A New Species of Saccolabium

S. loaderanum, sp. nov.

By the Rev. H. M. R. RUPP, Willoughby. N.S.W.



Saccolabium loaderanum sp. nov.

(Key to plate)

(1) Portion of a plant, natural size.
(2) A flower, x3.
(3) Section of a spur, x4.

Epiphytica, dependens, usque ad 18 cm. longa, folia alterna, 6-8 cm. longa, cuneata, prope medium 2 cm. lata, obtusa. Racemi nonnulli, 6-9 cm. longi. Flores 5-9, in pedicellis 1 cm. longis. Sepalum dorsale et petala aequalia, illud cucullatum, obtusum, 4 mm. longum; sepala lateralia angustiora, fere 6 mm. longa, ad columnae pedem fixa; petala aliquantum latiora. Perianthi segmenta omnia concava, pallida cum maculis magnis fuscis. Labellum album calcari deflexo longissimo, obtuso; intus appendice curvo infra foramen. Columna brevis lataque cum pede moderate longo.

A pendant epiphyte up to 18 cm. long. Leaves alternate, about 1 cm. apart, 6-8 cm. long, 2 cm. wide near the middle, cuneate, obtuse. Racemes several, 6-9 cm. long. Flowers 5-9, on pedicels fully 1 cm. long. Dorsal sepal and petals equal, the former cucullate, obtuse, 4 mm. long; lateral sepals narrower, nearly 6 mm. long, adnate to the column-foot; petals somewhat broader. All perianth segments concave, pale green, each with a large dark brown blotch about the middle. Labellum white with a very long greenish deflexed spur (up to 8 mm. long); this spur obtuse, furnished inside with a curved appendage below the orifice; tip of the appendage hirsute. Column short and broad with a moderately long foot.

Bambaroo, 60 miles N. of Townsville, Queensland; Arnold Johnson, July 1951 (not flowering). Flowering in the greenhouse of Mr. and Mrs. Norman Loader at Castlecrag, Sydney, N.S.W., December 1951.

This attractive little epiphyte is closer to S. **brevilabre** (Mueller) Rupp than to any other species, but there is no doubt of its distinctive character, as may be seen by comparing its description with that given by Mueller for his **Cleisostoma brevilabre** in Fragm. xi., 87 (Bailey, **Q. Flora** p. 1556). The species is named in honour of Mr. and Mrs. Norman Loader, who have successfully grown plants, and who are doing so much towards the conservation of our native flora. I wish to acknowledge the assistance of Mr. H. K. C. Mair, of the National Herbarium, Sydney, in depicting the new species.

A Legend of Durren Dae (Dream Time)

By DOUGLAS SEATON, Cairns

As told to the recorder by Maud, (Native name Joob-bee), of the Goo-rina totem (Echidna). Tchupaki People.

A man named Goy-yalla lived alone on the earth and one day he noticed a swelling in the calf of his leg (Baal-ah). He cut open the swelling and to his surprise took out a small baby boy (Wandee bandill bee-boi). He placed the bandill in his hut (Joo-gool) and went searching for food (miee). On his return he was surprised to see that the bandill had been fed and was growing rapidly. It appears that during his absence a woman named Wongul-Longul used to come down from the sky (Gin-kull) and feed the bandill. When the bandill had become a young man (Bama), he went up to the sky with Wongul-Longul and there they married. They returned to the earth and then created all animals, birds and fish in order that there would be food for future people. One day a brother of Goy-yalla came down to earth with him. This brother was named Da-muree and he was a Gar-jar (devil). He was constantly trying to cut open Goy-yalla's head (Ba-ta) as he wanted to eat Goy-yalla's brain. One day Goy-yalla tried to make a fire but his fire stick (Jonga-mice) was no good, so he asked Da-muree to make a fire. Da-muree said it was too much trouble, but he would bring fire from a long distance. He waved his hand and caused a violent upheaval of fire and stone which became the mount known as Walsh's Pyramid, near Gordonvale. Goy-yalla was annoyed with these proceedings and spoke sharply to Da-muree, who picked up a stone and cut open Goy-yalla's head. Goy-yalla then said, I will leave the place to you, and he returned to the sky. Da-muree wandered about alone and

one day when he was thirsty went down to the Bunna-warraw (Big water) now called the Barron River, for a drink, and while he was drinking, a crocodile snapped off his legs and he dragged himself up the valley (Warra-ba) and at the foot of the mountains died; in his death he changed into the outcrop of rock on the mountain top, now known as Glacier Rock.

Rock Paintings of the Konkandji People

By DOUGLAS SEATON, Cairns

Acting on information supplied by Berkley Cook, we went across to Brown Bay, to record the Rock Paintings shown to him by a member of the Konkandji Tribe.

The first lot of paintings sketched are on a granite rock about two hundred yards to the rear of Mr. Cook's hut. There are very faint traces of paintings that were evidently done several generations ago. I was able to trace the outstanding figures.

The paintings comprise a rock python with a swelling in the stomach—a crocodile—a figure that looks like a marine object—a flight of birds—a bird like a scrub hen—two line drawings of insects—a boomerang and a wallaby. One interesting feature on the rock is a painting of a branched tree with a trunk shaped like a bottle tree on which is a large panel containing a snake. This painting was done recently by an old aboriginal from Yarrabah and to me, the face of the snake having been painted shows that he has some of the old tribal ideas in his mind

The second lot of paintings are on the sides of a granite rock shelter situated on the brow of a ridge in Sunny Bay about twenty-five minutes walk from Brown Bay. There are only six objects painted here. Two of the figures represent decorated shields—two sets of double diamond objects—a small coiled snake and a figure of a man without legs and one hand with outstretched fingers. There are signs of former feasts around the two galleries in the shape of oyster shells.

A Day With the Townsville and District Naturalists' Club

By KEITH KENNEDY

A slight haze hung over Rowe's Bay when members of the Townsville and District Naturalists' Club commenced to gather singly and in twos and threes beneath the coconut palms at the Museum, Kissing Point, this being the rendezvous for our field day. Soon the haze cleared, revealing distant islands and the crystal bright day with turquois blue sky became typical of a North Queensland early summer.

Kissing Point is a headland of reddish granite interspersed with occasional diorite dykes and was in past days a corroboree ground of the aboriginals. Relics of their occupancy, such as stone artifacts and broken shells telling of bygone feasts have been found on and around it. When the whites came, a fort was built on the summit, and muzzle loading cannon — a couple of which still remain lying on the ground — once pointed out to sea. The Point is still under military control, and is therefore a reserve.

After assembling, the party of naturalists moved off in groups and reaching the base of the cliff, those geologically inclined examined some large weather worn boulders; those interested in botany studied the flora of the locality, and others their own particular phase of natural history. Further on, a grove of the stilted pandanus (**Pandanus pedunculatus**), was met with, imparting a Pacific Island atmosphere, and nearby the exotic tamarind grew (**Tamarindus indicus**), possibly planted by the crew of some trepang lugger, for the tamarind is of Asiatic origin.

On the slopes of the cliff the white flowers of the wild passion fruit, a climber from Mexico

Those geologically inclined examined some large weather-worn boulders.

(**Passiflora foetida**), looked pretty, but are not appreciated, for although the fruit is edible the leaves, on certain occasions, have a high content of prussic acid, and have caused numerous losses of stock. Sometimes we would tread on a herbaceous plant which when crushed gives out an aromatic perfume, an introduced labiate noxious weed, **Hyptis suaveolens,** which when dried can be used like lavender, another labiate to scent drawers and boxes. Another aromatic herb, a native composite, **Pterocaulon glandulosum,** was also found, and pieces of the very viscous leaves were crushed for the sake of the perfume.

Some of the party searched for a time in the locality, while others, after a scramble over rocks and boulders, rounded the Point and hiked back the landward side to Rowe's Bay, named after L. S. Rowe, one of the pioneers of Townsville, which is almost a miniature inland sea. On its scuthern side is Kissing Point; to the North is Cape Pallarenda, while athwart it lies Magnetic Island with its highest portion, Mount Cook, curving to 628 feet. In the gap between Cape Pallarenda and the north-western extremity of Magnetic Island can be seen a little island called Bay Rock, whilst away out on the horizon loom the distant Palm

Pandanus trees . . . imparting a Pacific Island atmosphere.

Rowe's Bay is almost a miniature inland sea .. . .

Islands. When the tide is in, the calm surface of the bay has a lake-like effect, but the water is not deep, and at low tide an expanse of rocks, mud flats and sand banks come into view, which our students of marine life found to be an ideal hunting ground. Specimens of the cowrie, **Mystaponda vitellus,** were obtained. This shell when thrown up on the beach and exposed to the sun becomes purple in colour and when still more weathered a slaty grey. A beautiful staircase shell, **Architectonica perspectiva,** was picked up, also an iridescent oyster, **Pinctada epitheca,** with both valves intact. A novelty was found in the form of a watering pot shell, **Aspergillum,** a bivalve, tubular in shape with one end of the tube closed but perforated like the rose of a watering pot.

Some cone shells were picked up, **Conus aculeiformis,** and an ear-shell, **Rhodostoma angulifera,** with an opening shaped like a human ear caused much interest.

Jutting out into the bay is a fish-maze made of stakes driven into the sand, and connected with

. . . Our students of marine life found an ideal hunting ground.

wire netting. When the tide is high, the fish wander in, and when it recedes they find themselves in a cul-de-sac from which they are gathered by the fishermen.

After looking over the maze, a return was made above high water mark to examine the littoral plants along the fore-shore. The plant society consists largely of the purple flowered Goat's Foot Convolvulus, **Ipomoea pes-capri,** so called because its leaves, like those of the **Bauhinia** are in outline shaped like a goat's hoof, sand binding grasses including sheoaks, **Casuarina equisetifolia.**

A short distance from Kissing Point we crossed a small creek overgrown with mangroves of several kinds, where our bird observers heard the singing of the Mangrove Warbler **Gerygone cantator.** To date this is the furthest north that the little songster has been observed. On the mudflats, our ornithologists saw white egrets, **Egretta,** busily hunting amongst the little pools, a couple of dotterel, **Charadrius,** searching in the sand close to shore, the Mangrove Bittern **(Butorides striata),** the Nankeen Kestrel, **Falco**

. . . The bird observers heard the singing of the Mangrove Warbler.

a silvery **Spinifex hirsutus,** which unlike the inland Porcupine Grass, **Triodia,** is a true Spinifex, and the prostrate mauve colored flowering **Vitex ovata,** the **Lochnera rosea** and its variety **alba,** which on insufficient grounds has been used in the treatment of diabetes, and further back a line of beach **cenchroides** and a large Red Backed Sea Eagle **Haliastur indus.**

As evening drew on, the various groups into which the club had separated re-united under the coconut palms, and after relating experiences and exchanging information, the outing formally came to an end.

Round The Mangrove Creek

By JEAN DEVANNY

The tidal creek, lined for the most part with the lovely white mangrove, **Avicennia marina** var. **resinifera,** runs alongside my garden, about fifty yards below the fence. Just here, there is a creek on this side, in the mangroves permitting wide lawns of a succulent weed with a small albeit pretty pink flower, **Sesuvium portulacastrum,** to slope gently down to the water's edge. And on this sward, at time of a making tide, and especially in the early morning, there gather ibis by the dozen—some of them black—

the strawnecked ibis, **Threskiornis spinicollis,** but most with white body, black head and tail, the white ibis, **T. molucca,** and small white and blue reef heron, **Demiegretta sacra.** Pick, pick, pick go the stilettos of their bills as they fossick for titbits in the succulent saltpan weed. At times a solitary great white heron, the White Egret, **Egretta alba,** glides in, but he never stays long. And with the sun, up come dozens of fork-tailed kites, **Milvus migrans,** to circle ceaselessly, day-long above the creek and in its vicinity. They never seemingly alight. And a pair of red-backed white breasted sea-eagles, **Haliastur indus,** seem to nest hereabouts, for they, too, join in the winged joy-riding above the creek. Before the drought broke, many black ducks, **Anas superciliosa,** also came in; not so much, it appeared, to feed, for they kept always on the move. As the high spring tide crept up and covered the succulent carpet they came up, too, on its calm lacy surface, till they were sailing along close beside my fence.

Lately, a young pheasant-coucal, **Centropus phasianinus,** has taken to lodging of a morning on a small tamarind tree outside my fence. His youth I deduce from the fact that the feathers round his head are fluffy and fawn and his tail short. And in place of the chanting and bottle-pouring, the calls of the adult birds, his sole utterance is a loud complaining wheeze. This morning I tried to creep up to him. He waited, with proud inquiring looks, till I was within a few yards, then took off into the refuge of a large mango in my garden.

The black-faced cuckoo shrike, blue jay, **Coracina novaeholiandiae** also likes that tamarind, visiting it in pairs or flocks up to seven, almost every day.

But I don't know which end of the day I like better, for the birdlife round the creek. For at evening, the rainbow bird, **Merops ornans,** come in by the thousands to roost in the mangroves. The air is filled with the music of their sweet rattling cries. They begin to arrive as the trees are bathed with the calm mild glow of sunset, flock after flock. Straight out of the west they wing into the trees, but they do not stay there. For a time they flutter and gambol through the topmost boughs, then take off again and engage in circus tricks above the forest. Up, up they fly, with prodigious wing-movement, then fold their pinions and drop like a plummet. Or they glide, turning and twisting to delight the beholder with the play of sunlight upon their rainbow-hued plumage. The needles of their tails are clearly seen, black against the golden light. They keep up this play till near dusk, then settle in the trees, but their song continues until the last gleam of light has faded. After them come the fireflies. Pinpoints of pulsating light amongst the trees, they dart and streak across the intervening lawns.

Townsville and District Naturalists' Club

President, Mr. Keith Kennedy, Museum of Music, Esplanade, Kissing Point, Townsville, Hon. Sec., Elizabeth Kennedy, Box 178, Townsville.

Meetings are held on the first Friday in each month in the Lecture Room of the Adult Education Centre, Wickham St., Townsville.

Meeting:- Sept. 7th, 1951. Mr. Black's Hughenden Report was read and discussed. Mr. Brock brought in a most interesting collection of shells and beetles and explained all their interesting points; he also read a report by the Clarence Valley Field Naturalists' Club on butterflies. Mr. J. J. Selvage read a paper from the Clarence Valley Field Naturalists' Club on birds. Mr. Kennedy read a paper and exhibited an outsize stone from the Upper Murray River District.

The Field Day was to Magnetic Island.

Meeting:- October 5th, 1951. Lecture given by Mr. J. J. Selvage on Bird Migration beginning with the earliest mention on the coming and going to other lands. He mentioned the various birds which fly thousands of miles from one continent to another to nest so that they could get more daylight in which to feed their hungry families. He

spoke of the time and height at which the various birds migrate. After an interesting discussion the speaker was given a hearty vote of thanks.

The Field Day was to the Black School Weir where a very enjoyable outing was had by all.

Meeting:- 2nd November, 1951. Mr. K. Kennedy spoke on Indians of the Painted Desert, which is in Arizona, and gets its name because of the varied colourings in the rocks and earth. Here the Indians still keep up their old customs and live their ancient way of life. Lantern slides made by the lecturer during his travels through this fascinating region were screened depicting Indian craftsmen, ceremonial dances and everyday life. To conclude the talk he played several tunes on the Indian flute, including a payote ceremony song and an eagle dance. Afterwards some magazine pictures sent to Mr. Selvage were shown, and Mr. Brock described a field day held by the club on Magnetic Island.

The Field Day was to Three Mile where Mr. Sleigh led the party to a bower birds' playground.

Meeting:- December, 1951. Lecture by Mr. Arnold Perkin on Insect Dispersal. He mentioned the economic aspect of the subject in its attempt to control insect pests by studying their life habits. Mr. Perkins said that there are two methods of dispersal—drift caused by wind and air currents, and migration caused by voluntary action of the insects. To study drift scientists have zoned the atmosphere. Above one thousand feet it is called the plankton zone because the innumerable wind borne insects suggest the current borne minute animal life which constitutes the plankton of the ocean. Examples of butterfly life in Europe and America were cited, and some theories to account for their sense of direction were put forward. After a discussion, Mr. Kurth showed some coloured lantern slides of his collection of orchids which include some rare Cattleyas and Dendrobiums, also slides of Mr. Brock's orchids, and some cases of butterflies.

FIELD DAY. Because of the holiday season, the field day was declared to be a members' field day, all members to observe natural history subjects wherever they were and to report when they returned home.

Meeting:- 4th January, 1952. Miss Hopkins spoke of birds she had observed during December, mentioning the Red Winged Parrot, **Aprosmictus erythropterus,** which visits her home. At Ingham she observed the Shining Starling, **Aplonis metallica,** and watched them gathering nesting material; and the Grey Swiftlet, **Collocasia francica,** and the Crimson Finches, **Neochmia phaeton,** also the Golden Headed Fantail Warbler, **Cisticola exilis,** the Yellow Oriole, **Oriolus flavocinctus,** Dusky Honeyeater, **Myzomela obscura,** the Black Butcher Bird, **Cracticus quoyi,** and the Shining Flycatcher, **Piezorhynchus alecto.** Mr. Brock spoke on the currawongs and their habits. He also exhibited the leaves of the wannakai (finger cherry). Mr. Kennedy spoke of the trips he took to Shelly Beach, through the Common to the Black River and Shelly Beach from Cape Pallerenda.

Owing to members being away, the Field Day was observed as a members' Field Day.

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Sunday Australian Printery.

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The North Queensland Naturalist

The Journal and Magazine of the North Queensland Naturalists' Club

VOL. XX. Cairns, 1st September 1952. No. 102

The Rock Paintings Of Cairns Area, North Queensland

By NORMAN B. TINDALE,
Ethnologist, South Australian Museum

Mr. Douglas Seaton, through Dr. H. Flecker, has submitted for examination a most interesting series of rock painting records from the Cairns district.

His finds were made near Bridle Creek on the northern slopes of Bare Hill; at Silver Valley; at Long Gully on the east bank of the Walsh River; in the Watsonville area, particularly on the North East and Western sides of Lion Mountain; at Picnic Cave; near Balanaing Rock; and at Cave Hill. Mr. Seaton was directed to the Lion Mountain galleries by Mr. S. E. Stephens.

There are so many painted figures in these caves that it is not possible at one time to show figures of all of them, but it is felt that some preliminary details of the more typical ones should be published.

The material examined consists of sketches made in the field, of about 250 paintings; some of these were supplied in copies that had been duplicated by blue printing. Others had been retraced in coloured crayons by Mr. Seaton from his own field sketches.

The majority (85 per cent) of the paintings are in red ochre and of these 75 per cent are in solid colour. A dozen pictures are in yellow, while there are four in which the red is surrounded by white and two in which a white figure is outlined in red; in one instance the white is a fill-in of spots. Except in two paintings from No. 1 Gallery near Bridle Creek, yellow designs are independent of the red ones, in the exceptions these are red figures of human beings outlined in yellow.

Animal and man figures predominate in the copies submitted for study, most of them are very simple. Complex designs are relatively few; one or two seem to be pictures of shields bearing designs. These shields are similar to, although less well drawn than ones found by Mr. D. G. Sanderson, painted in a rockshelter at Mt. Elliot Natural Park (Mankind v.4, 1951, p.294). Tracks, whether of man or animal, are relatively uncommon as compared with cave painting displays in other parts of Australia. A notable exception is at Long Gully, on the Walsh River, where there is a remarkable red painting of what seems to be the front view of a young cassowary, showing the immature plumage. On one side of it there are grouped several series of tracks, presumably of the same species of bird. It will be noticed that this bird appears to have a third leg.

In several instances at Bridle Creek there are mammal, human, and large bird paintings shown in silhouette, the colour outlining the animals in each case being a reddish ochre different to that in general use for the solid figure paintings in the cave. In three instances there are superimpositions hinting that these silhouettes may be later than the solid red ochre figures.

Interpretation of rock paintings is often subjective, and paintings casually in juxta-position can be falsely read as depicting a connected story. Although the great bulk of the pictures appear convincingly to represent isolated figures, the two following may be linked narrative painting:s—

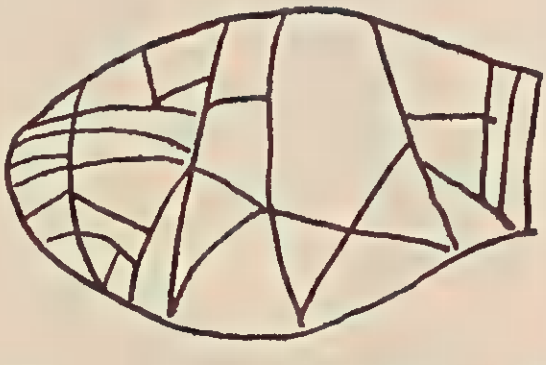
(1) Group of four figures presumably men, holding up a kangaroo which is much larger than the men. (Bridle Creek).

(2) Person within a double semi-circular figure; in Central Australia such a

Long Gully Watsonville

Bane Hill
No. 1 Gallery.

Lion Mt Watsonville



Picnic Cave Watsonville

Cave Hill Watsonville

Bare Hill No 3 Gallery.

Bare Hill No 1 Gallery

Hill Top Silver Valley

No 1 Gallery.

figure commonly represents a camp with a man or a woman in it. (Bridle Creek).

There is one figure at Silver Valley, in the Hill Top gallery on the east side, which may represent a man with a ceremonial headdress. Mr. Seaton has depicted the head part and the body in different ochres, hence there is a distinct chance they are accidental superimpositions of separate man and shield paintings.

Viewing the collection of paintings as a whole, it seems evident that they are the artistic efforts of individual painters, each making his own simple picture without regard to others. In this sense they are far removed from the complex drawings of the aborigines of Central Australia and of the northern coasts of Australia. They show a general familiar relationship with the simpler drawings of caves and shelters in southern Australia.

From the theoretical point of view it is of considerable interest to note that these drawings all come from within the area where Tindale and Birdsell (Records of the South Australian Museum, Adelaide, v.7, 1941, pp.1-9) and Birdsell (Records of the Queen Victoria Museum, Launceston, v.2, 1949, pp.105-122), have indicated the presence of a nuclear population of the Barrinean peoples, of negritic stock, only partly modified by physical contacts with true Australians of the Murrayian type. Since the Barrinean negritic peoples were probably the first to populate Australia, it is possible that the rock paintings discovered by Mr. Seaton give us a relatively unaltered glimpse of the artistic capabilities and achievements of the negrito peoples who first populated Australia, since there is no evidence of the prior presence of Australoids in the Cairns rainforest areas. His discovery, therefore, may be of fundamental importance in our efforts to understand the origins and cultural developments of the peoples of Australia. The presence of shield designs, like those recorded from Mt. Elliot, link the paintings with the material culture of the present-day Barrineans. In the case of Mr. Sanderson's discovery, the country near Townsville where they were found is occupied by members of the Bindal tribe, who are very typical Australians of the Murrayian type. They do not use the large tree-buttress shield, suggesting that in that area the negritos have been displaced, leaving the rockpaintings as the principal evidence of their former presence.

In addition to the cave paintings, Mr. Seaton found at Tjuken Bora ground, on Jordan Creek, in the Palmerston area, carvings on the bark of trees somewhat similar in design to the paintings, although sufficiently distinct to suggest the possibility that these contemporary designs were different to the earlier cave paintings. His tree bark carvings suggest the bora-circle and grave-marker designs common in New South Wales. In that area they are characteristic of the culture of the Southern Australoids or Murrayians.

Interference To Electric Supply Lines By Fruit Bats, Mynas, Etc.

By H. FLECKER, F.R.G.S.A.

The sight of fruit bats, mostly **Pteropus gouldi,** in various stages of dehydration and decomposition, dangling from high tension power lines is quite a familiar one in North Queensland, especially in Cairns, where they are generally known as "flying foxes." They are evidently electrocuted in their nocturnal excursions, for they are never seen to rest or roost on wires or similar objects of any kind, and from their position along the lines, as well as their variable postures when so trapped, it is quite clear that their progress has been arrested during actual flight, causing a short circuit. The passage of a powerful high tension current through their bodies causes involuntary contraction of the muscles which voluntary effort is powerless to relax. Some are

noted with the thumbs at the extremities of their flying membranes clutching the wires on each side with the head dangling in between; others caught between thumb on one side and foot on the other, while all sorts of bizarre attitudes are noted in others. A few fall to the ground while still alive but severely shocked. Yet it has been shown that small cave-dwelling bats, even when blind, can fly briskly in and out of caves, in which light scarcely penetrates at all. Experimentally they have been shown to avoid all wires in such darkness, and this they do by emitting a high-pitched note, the echo of which is perceived after the manner of radar. Evidently the fruit bat has no such mechanism and stumbles directly against the high tension wires, upon which it perishes. Yet it is exceedingly rarely that any day flying or even night flying bird is so caught.

Much of the following information is supplied through the courtesy of Mr. Keith Downs, Secretary of the Cairns Regional Electricity Board.

Electrical engineers of the Cairns Regional Electricity Board in their ceaseless efforts to maintain continuity of electric supply, have to contend not only with ravages of storm and flood, but also with the aggravations of the above pests and "vermin." The extent of the nuisance may be guaged from the following figures: During the period November, 1951, to February, 1952, inclusive, in the Cairns District alone for the four months, twenty-three interruptions were due to the aerobatics of these winged mammals which, in their flight, struck low-tension service wires and caused them to be hit together, thus blowing the service fuses. The low tension lines, of 240 volts are one foot nine inches apart, whilst the high tension lines are separated by an interval of three feet six inches. There were, in addition, fifteen instances of the Pteropi fouling the mains and being electrocuted, but not causing any dislocation of supply.

As one might expect, it is during the mango season—mangos ripen mostly during the month of December and have only a short fruiting season—that the nuisance reaches its peak, and any services near mango trees—(**Mangifera indica,** an introduced species)—are almost sure to be affected. The average time of an interruption is approximately an hour, but if the trouble should occur after the householder has retired for the evening, then the power may be off for several hours. This mainly affects domestic refrigerators. The best means of minimising the trouble is to have fully insulated (that is rubber covered) active conductors, or to use service entry cables.

Although major outrages are fortunately rare, it was as recently as January of this year that flying foxes were suspected of fouling the high tension Caravonica-Redlynch circuit, causing extensive interruptions to consumers in that area. In that particular instance, however, the wires had sagged more than usual and the spacing between them had decreased. Generally speaking, the tensions and clearances in those important high tension lines are, thankfully, of sufficient magnitude to render them almost immune from the flying-fox nuisance.

The Common Myna, **Acridotheres tristis,** an introduced bird very common in North Queensland sometimes rest in large flocks upon the lines. It is usual for them to take off almost simultaneously and in doing so, by approximating the cables, cause a short circuit.

The Common Water Snake

Tropidonotus mairii

By JOHN McLOUGHLIN

HABITS AND HABITAT—This snake is found in low-lying, swampy areas, where it is mostly seen in the early morning or at dusk. When one is seen moving slowly through the swamps or poking its head under the moist bark of fallen trees, it is sure

evidence that it is searching for food, which consists of frogs. They are often seen lying on the roads in the evening, enjoying the warmth therein. When startled or caught, they display all the ferocity of a venomous snake, even to having mock venom glands which stand out prominently from the side of the head. They are hardy reptiles and easily kept in captivity. Being voracious eaters, they will devour up to six or eight medium sized frogs if given the chance. This gluttonous habit is very unhealthy and if allowed to continue will eventually kill the snake. It must be remembered of course that in its natural state, it is by no means an easy task for a snake to catch food. It may seize and devour a frog, but then it may be a day or so before it is able to procure another for instance. Thus, when captured and placed in a cage with about four or five frogs, it is sure to devour the lot, instinct warning that it may be a couple of days to the next meal. If given a heavy meal every day, the snake gradually becomes very sluggish until at last it enters a trance which may last as long as two days. At the end of the trance, the snake dies.

A satisfactory diet which the writer has found very successful is two medium sized frogs every other day.

The aggressive nature of these snakes (freshly caught specimens) disappears very quickly and they become very docile even to the extent of eating out of one's hand. The writer has found that if a freshly captured snake is handled (at the moment of capture) very carefully, it will not even attempt to strike, but if a sudden move on the captor's part is made, the snake will attack instantly. When striking, it swings its head and neck swiftly away, then brings it sharply back, mouth wide open ready for the bite.

COLOUR—This snake has a very wide colour range, the most common being: upper surface black, extending as far as the coastals bordering the ventrals. Under surface, pale cream or white, the subcaudals being a darker shade, the sublingual and infralabials being the same colour as the ventrals. The upper part of the head is also black, except the supralabials and rostral, these being of a cream colour.

Another common phase is the grey upper surface as far as the ventrals. The under side is a yellow cream or a dirty white, with a band of black (about one-eighth of an inch wide) at the overlap of each ventral scale. The lower jaw and supralabials are pale yellow. The head is of a shade lighter grey than the back.

Another scarcer variety is orange or orange-brown in colour, these colours being on the back, and up as far as the base of the neck. The head is of a light grey, excluding the supralabials and rostral. These, together with the lower jaw, ventrals and subcaudals are of a light cream. These three varieties are the most common, although there is a light grey form with black flecks here and there along the back. The black flecks may be very profuse on some, and very widely spaced on others.

RECOGNITION—The head is distinct from the neck and is longer than broad, tapering towards the rostral. The body is of moderate length, the tail being rather short for the size of the snake, is circular and finely tapered. Owing to its wide colour range and fearless attitude when provoked, it is often mistaken for the Common Brown Snake, **Demansia textilis**, and the Black Snake, **Pseudechis porphyriacus**, but should be easily recognised by the head being distinct from the neck. Another most important point is that the Water Snake is quite harmless, possessing no poison fangs whatever, only very fine teeth which slope slightly backward in the mouth.

SCALATION—Frontal one and a half times as long as it is broad. The nasal is entire. Supralabials number six, the infralabials eight. The fourth, fifth and sixth supralabials enter the eye. The third, fourth and fifth infralabials touch the anterior sublingual, while the sixth, seventh and eighth infralabials touch the posterior sublinguals. The vertebral scale row is decidedly smaller than the coastal rows, touching the ventrals, but the costals gradually diminish in size as they approach the vertebral row. The

coastal rows touching the vertebrals are the same size. The vertebral and coastal rows are very highly keeled.

Ventrals number 142 to 151, almost unnoticeably angulate and notched at each end. Subcaudals range from 42 to 68 and may be divided or single and divided, the single scale being sixth to eighth preanal. Anal is divided. Scale rows 15, 14, 15 very highly keeled.

SIZE AND DIMENSIONS—The size and dimensions are measured from a snake captured by the writer, reaching 3 feet 1 inch from rostral to the tip of the tail, an inch longer than the recorded size.

Length of tail 5½ inches.
Length of head 1¼ inches.
Width of head ¾ inch.
Diameter of body 1⅛ inch.

RANGE—It is found only in Eastern Australia, and is recorded as far south as Kempsey in New South Wales and as far north as Cape York. The writer thinks that it may also exist in the low lying regions of Papua.

The Boomerang

By J. H. WILLAMS, Mackay

The boomerang appears to have been discovered by accident. Black boys, seated round a camp fire, amuse themselves with the leaves of the brigalow-acacia, which resemble boomerangs. They give the leaves a flick with the finger and they start off to return like a boomerang.

The Egyptian and Assyrian boomerangs do not return.

The Australian boomerang is somewhat flat and slender, made from a hard and heavy wood, usually brigalow, **Acacia harpophylla**, or myall, **A. homalophylla.** One side only is slightly rounded.

The warped or toy boomerang is twisted by putting it in water, then heating it and bending the ends in opposite directions. The curve must be natural and lie in the wood itself.

To throw the boomerang, the native grips it firmly, runs a few paces with the concave side to the front. It is thrown in a straight line forward. Often it touches the ground ten or twelve paces from where it is thrown. It takes a horizontal position and starts off, spinning like a wheel. Rarely was a man killed by a boomerang; no accurate aim was possible with a returning boomerang.

There is a myth that Thor's hammer returned to the hand of the thrower; it has been said that the boomerang has been found in South-eastern India; but it appears certain that it owes its origin to the love of fun inherent in the young Australian aboriginal, and that it was suggested by the action of falling leaves.

Birds Seen At Stuart (Townsville District)

March, 1952

By J. J. SELVAGE, Stuart

1. Diamond Dove, **Geopelia cuneata.** Many.
2. Crested Pigeon, **Ocyphaps lophotes.** Many.
3. Spur-winged Plover, **Lobibyx miles.** About 6 feeding in gaol paddock.
4. Red-capped Dotterel. **Charadrius ruficapillus.** A pair.
5. Southern Stone-curlew, **Burrhinus magnirostris.** Many crying during night.
6. Straw-necked Ibis, **Threskiornis spinicollis.** Large numbers.
7. White Ibis, **Threskiornis aethiopica.** Several.
8. White Egret, **Egretta alba.** One.
9. White-faced Heron, **Notophoyx novae hollandiae.** One.
10. White-necked Heron. **N. pacifica.** One.
11. Swamp Harrier, **Circus approximans.** One.
12. Fork-tailed Kite, **Milvus migrans.** Large numbers.
13. Square-tailed Kite, **Lophoictinia isura.** Several.
14. Rainbow Lorikeet, **Trichoglossus moluccanus.** Several.
15. Budgerygah, **Melopsittacus undulatus.** Several.

16. Cockatiel, **Leptolophus hollandicus.** Several.
17. Pale-headed Rosella. **Platycercus adscitus.** Several.
18. Blue-winged Kingfisher. **Dacelo leachi.** One pair and one young.
19. Forest Kingfisher, **Halcyon macleayi.** One.
20. Rainbow Bird. **Merops ornatus.** Several.
21. Koel. **Eudynamys orientalis.** Early in month heard calling.
22. Channelled-billed Cuckoo, **Scythrops novae hollandiae.** Several early in month.
23. Pheasant-Cuckoo, **Centropus phasianinus.** Several.
24. Magpie-lark, **Grallina cyanoleuca.** Several.
25. Black-faced Cuckoo-shrike, **Coracina novae-hollandiae.** Two.
26. Spotted Pardalote, **Pardalotus punctatus.** Several.
27. Spotted Bower Bird, **Chlamydera maculata.** One pair.
28. Red-backed Wren, **Malurus melanocephalus.** One small flock.
29. Crow, **Corvus cecilae.** Many.
30. Pied Butcher-bird. **Cracticus nigrogularis.** Pair.
31. Black-backed Magpie, **Gymnorhina tibicen.** Many.
32. Common Myna, **Acridotheres tristis.** Numerous.

North Queensland Naturalists' Club

Meets at School of Arts, Shields St., Cairns, usually on second Tuesday in each month, at 8 p.m.

MEETINGS:

13th March, 1952—Lecture illustrated by coloured films by Mr. Tuckfield, who toured the coast of West and North Australia in a motor launch starting from Perth, W.A., and had already reached Cairns.

Exhibits were photographs of a jelly fish taken by Mr. Lionel Law; larval forms of cestodes from snakes, etc.

8th April, 1952—Mr. C. Cantrill gave an interesting talk on aboriginal drawings in the Kimberleys of West Australia, based on a description by Mr. Frank Clune.

13th May, 1952—Owing to The Sunday Australian ceasing publication, it was announced that the North Queensland Register had agreed to publish Current Nature Topics supplied by the Club.

10th June, 1952—Mr. A. A. Read described a shell collecting trip to Port Douglas, giving useful information for others desiring to collect.

CLUB OUTINGS:

Excursion to Behana Creek led by Mr. Reg. Rudge, Joint Engineer to new water supply to the Mulgrave Shire and Cairns City Council, where works are proceeding. A good attendance, perfect weather, and much interesting material which was secured marked the occasion.

22nd June—To Mouth of Hartley Creek. The attendance was good, fine breezy weather prevailed, and those interested in the botanical and other features of the region were rewarded.

NEW MEMBERS ELECTED:

11th March: Mrs. Cynthia Aitken, Esplanade, Cairns.

8th July: Dr. Fred Bainbridge, 54 Gatton St., Cairns.
Mr. Walker, Kairi.
Miss E. M. Wall, 402 404 Pacific Highway, N. Hornsby, N.S.W.
Mr. Douglas Johnston, Machan's Beach.

PUBLICATIONS BY N.Q. NATURALISTS' CLUB

1.	CHECK LIST OF NORTH QUEENSLAND ORCHIDS ..	PRICE 1/-
2.	MARKETABLE FISH OF THE CAIRNS AREA	PRICE 1/-
3.	CHECK LIST OF NORTH QUEENSLAND FERNS	PRICE 1/-
4.	EDIBLE PLANTS IN NORTH QUEENSLAND	PRICE 2/-
5.	LIST OF BIRDS OCCURRING IN NTH. QUEENSLAND ..	PRICE 2/-
6.	LIST OF AUSTRALIAN DRYOPIDAE	PRICE 6d.

Sunday Australian Printery.

The North Queensland Naturalist

The Journal and Magazine of the North Queensland Naturalists' Club
Established 1932

VOL. XX **Cairns, 1st December, 1952** **No. 103**

Candalides hyacinthina josephina var. nov.

A new race of the Butterfly, **Candalides hyacinthina** Semper.
Family **Lycaenidae.**

By E. J. W. HARRIS, Kuranda

MALE—Above. Forewing rich bluish purple, termen and costa brown-black; more broadly than the typical race but consistent with the western race. Cilia brown-black tipped pale brownish grey, brown-black at the veins. **Hindwing** rich bluish purple, termen and costa brown -black more narrowly than in the forewing. Cilia brown-black tipped pale brownish grey, brown-black at the veins.

Beneath. Forewing pale brownish grey, a faint streak at the end of the cell grey-brown. A discal line stretching from costa to dorsum of irregularly shaped dots, grey-brown. A subterminal series of arrow shaped marks stretching from apex to tornus and increasing in size, grey-brown with the last three brown-black.

Hindwing pale brownish grey, a series of concentric semicircles of

dots spreading from base to termen, grey-brown; terminal series arrow shaped, discal series larger and shape irregular.

FEMALE — Above. Forewing brown-black, a central area reaching the base and dorsum, deep rich royal blue. Cilia brown-black tipped pale brownish grey, brown-black at the veins. **Hindwing** brown-black, a central area reaching the base and dorsum, deep rich royal blue. Cilia as in forewing.

Beneath. Forewing and Hindwing as in male.

Hab. Stawell, Victoria (Harris). Types, male and female and paratypes coll. Harris (Kuranda).

The colouring in the male of this race appears to be constant, though some examples may be more bluish than others. The females, on the other hand, differ widely in colour, shade of colour, size, and to some extent in shape, and the areas occupied by the coloured portions of the wing may extend from a few scales near the base of the forewing to the greater part of both fore and hindwings. The colour may be royal purple, violet purple, lilac purple, royal blue or the blue of **c. simplexa.**

Taken from the series some females resemble **c. hyacinthina,** others **c. simplexa,** while others differ considerably from either race; this instability may have considerable bearing on the origin of the race.

Shells Of The Sea

By J. H. WILLIAMS, Mackay

In the sea, as on the land, plant life is the basis of animal life.

Minute plants abound in the waters of the sea and gigantic algae grow in the Antarctic regions. Small animals live on these and, in turn, become food for the fishes.

In the sea, as on the land the rule is no plants, no animals. Fish eat fish, molluscs, plankton; the crabs eat fish and molluscs; the molluscs eat each other, and the minute scraps are cleaned up by the shrimps—the ants of the sea.

To replace the wastage nature has provided the reeds. In the Divine Plan it would appear that molluscs carry the greatest responsibility of all creatures for, without the molluscs all life in the sea would soon have ceased to exist and, with it, life on land.

In that great day after the Creation of the earth, the waters came forth forming gullies, creeks, rivers and torrents which carried their spoils down to the sea; and thus, to this day, the process continues.

The sea has become a repository, storing substances which make possible the molluscs, without which the sea, long since, would have become stagnant and putrid.

The sun's rays extract vapour from the sea, which ascend to the upper air, later to be precipitated in the form of rain. We know, by taste, that rain water is fresh water, indications that the surplus matter, previously in solution, remains in the upper layers of the ocean, thus increasing the specific gravity and causing the more heavily laden water to sink. Soon a stalemate must have resulted but for the molluscs.

When the Atlantic cables have been lifted for repairs, molluscs were found adhering to, or embedded in the casing. The molluscs working in the depths of the ocean have used material such as lime and colouring matter to build their homes, thus decreasing the specific gravity; the lightened layers of water move upward.

So between the action of the sun's rays at the top and the molluscs at the bottom, the sea is so well mixed that never has a grain of salt been found in solid form.

When we speak of shells we refer to the house which the little architect has designed and built, and to the builder within. The discarded shell, decaying on the beach is known as the bones.

When you hold a shell of the snail tribe with apex upward, the whorls or rings almost without exception, turn to the right. These are the right-handed or dextral shells.

In the seas off the coast of Florida, two varieties of shells are found in which the whorls turn to the left. These are the left-handed or sinistral shells.

Except for odd, freak specimens, no sinistral shells are found in the Pacific, so our scientists claim that this establishes that the two Americas always were joined, otherwise the Gulf Stream must have swept eggs into the Pacific.

Holding the shell, we notice a very small top ring. This is the nucleus, a very small animal was born within that section. He diligently extended his house around himself as he grew, until he completed the fifth whorl or turn. The aperture, then, is finished off, and any further activity is devoted to thickening the shell.

Before starting out to collect shells, some little knowledge of their habits is essential.

Some shells are found in the open beach, some in rocks just beyond the reach of the tide as it recedes; yet others, in the breakers.

If the shell you seek is dark in colour do not waste time on a clean sandy beach. Look rather in the mud and reeds, for the builder must seek there for such materials as he requires.

If you find lovely pink shells then gather all you require while you may. Nature has provided the necessary colouring material just at that spot.

It is suggested that the beautiful Paua Shell of New Zealand, cousin of our mutton fish, the South Australian and the American abalone, owes its rich colours to the copper ore, which extends under the sea, where it is found.

One shell around which superstition has persisted since very early periods of history is the **Pecten**, now so familiar as the Shell Co's emblem. A Pecten—Latin for comb—was worn as a charm to ward off sickness. The ornate comb our ladies wear in their hair and the cruder bamboo comb of the women of New Guinea, alike serve to perpetuate the superstition.

The purple shells were so named because the Ancient Romans and Greeks extracted from them an imperishable dye with which to dye their Royal purple Togas.

In the depths of ocean as on the highest mountains, the molluscs carry on their work. None knew Mother or Father, none had an instructor, yet each one is a faithful replica of each other one of the same variety. Part of the Great Design, they make it possible for life to exist, and so we learn from them a lesson of great humility. Let us not despise the lowly molluse.

Rock Paintings In the Brown Bay Area, North Queensland

IRUKANDJI PEOPLE.

By DOUGLAS SEATON

Mr. Berkeley Cook who runs a Launch and Pleasure Resort at Brown Bay, asked me to come over and make a record of a new series of rock paintings which have recently been re-located by Mr. and Mrs. S. Stevens, who conduct the kiosk at Brown Bay. The paintings are on an undersloping granite shelter near the Yarrabah track, about twenty minutes walk from the beach. Accompanied by Mr. Jack Courtney and his son, I visited the area on Sunday, 26th October, 1952, and recorded the paintings.

I was very fortunate as Mr. Cook had sent Dudley (tribal name Jinbul and totem Kanbee, which means blood) up to me at the shelter to assist me with the recordings. Dudley is an old man, born in the Cooktown area and removed to the Mission Station in the elder Mr. Gribble's time. He is intelligent and speaks several of the tribal languages, particularly that of the Tjapukai. I have a working knowledge of this language, so we got on well together. There is quite a midden of shell and nut shells around the

shelter, mostly marine bivalves and nuts of cycads (**Cycas** or **Macrozamia**). Dudley is the first aboriginal whom I have met who could interpret the meaning of rock paintings.

On the left side of the gallery is a figure which represents a dilly bag (**bookawl**) and a stone axe (**naam bar**). Alongside is a shield (**maahchay**), a cassowary (**boondarra**) track, a giant lizard (**bodja bodja**), a shield handle (**maahchay joon garoo**) and two unidentified objects. Under this group are two paintings of ships with high bowsprits. Dudley says that the old men told him the drawings were of Captain Cook's Endeavour, and as the Cook legends are still fresh in the minds of the old people, the explanation could be true.

The centre of the gallery has one of the most interesting groups that I have yet recorded. The central figure, painted in white, represents a headless woman in a squatting position. To her left is a red disk with a white inset, and to the right is a looped figure in red ochre. Under the figure is a drawing representing the rock shelter and nearby granite stone. The story of the group as told by Dudley, is as follows: An Irukandji woman was captured by the Kongkandji people, who cut off her head and placed the body in the stone oven (represented by the red disc). After the flesh was eaten the bones were wrapped up in bark for disposal (the looped red design). The drawings were painted by the old men to record the incident and also to serve as a warning. To the left of this group is another set of figures painted in white, and consisting of a bean shaped object and two lines. This set is a warning to any visiting tribesmen, telling them to beware of the Kongkandji people, as they are cannibals.

On the far right hand side of the gallery is another three sided figure painted in red which is also a warning sign. The top of the right hand side has another drawing of the "Endeavour," and under it is a drawing of a turtle (**bodjakull**). To the right of the turtle is the figure of a man (**bama**) and a snake (**jumah**) painted in yellow. Below the turtle is a drawing of a shield, a cassowary track, and some objects too faint to decipher. Under the shield is a starfish. Dudley reckons that the paintings were made before Captain Cook's time, and says that the old men told him that the Irukandji area was bounded formerly by the Murray Prior Range, from Mission Beach to Trinity Inlet as far as Hill's Creek in the west. The area also included Yarrabah and False Cape. The area south of this, including Cape Grafton, King's Beach and the eastern area bounded by the coastal range to the Russell River, was occupied by the Kongkandji people.

The rock paintings to the rear of Mr. Berkeley Cook's cottage were described by me early in the year and since this time Dudley has repainted the whole of the figure and added a few more. He has outlined all the figures I recorded and several that I could not identify. He has painted them in the traditional colours of red (**woopa**), yellow (**murraka**), white (**kopa**), and black (**bookan**), and has stippled practically all of the figures in these four colours. He has told me that the old men had asked him to keep the drawings fresh. The outstanding figure in this gallery are the paintings of trees; one in particular has a snake painted in a panel on the trunk. This tree represents a large black pine tree (**Podocarpus**) which grows on the edge of the rain forest near the Yarrabah track. The tree is still venerated by Dudley and was "taboo" to any damage by the tribesmen. In the fruiting season the message stick (**wonggalukken**) was sent out to invite friends to the feast. The snake in the panel signified that this was also good meat country. There is also a painting of an anchor which is supposed to represent the anchor lost by Captain Cook when he landed in Mission Bay on 10th June, 1770, in a search for water. One of the Irukandji was supposed to have recovered the anchor and recorded the deed in the form of the rock painting.

The fact that the rock paintings have been done in this age

is to me a unique and pleasing occurrence, and I hope the visitors will not add their initials to this display.

Mr. Cook has cleared tracks and erected signs leading to the galleries and the pine tree, and to those who have not seen aboriginal rock paintings I can recommend a visit.

Townsville And District Naturalists' Club

Meets on first Friday of month in Adult Education Lecture Rooms, Wickham Street, Townsville.

President, Mr. K. Kennedy, Esplanade and Rose Street Kissing Point, Townsville. Hon. Secretary, Elizabeth Kennedy, Box 178, Townsville.

LECTURES AND FIELD DAYS

The February lecture by Mr. Keith Kennedy was entitled "Nautilus and its Geological Ancestors." The Nautilus first appeared as a tetrabranchiate cephalopod of the Phylum Mollusca. Its evolution was traced from a straight shelled ancestor which lived some 650 million years ago in the Cambrian period through various ancestral forms to the modern animal. Although shells of the nautilus have often been picked up on beaches, very few white people have actually seen the living animal, and there are only two preserved specimens in museums at the present day—one in the Museum of the Royal College of Surgeons, London, and the other in the Sydney University. Pictures of fossil nautilus ancestors were projected on the screen, and specimens of shells were exhibited.

The Field Day was to the Town Common, where many birds were observed.

The March Lecture, by S. Brock, was illustrated by colour films taken by Mr. T. J. Fletcher, of Sydney, of a motor tour inland through Bathurst and Orange, then northward. These showed various rivers crossed in Queensland, different kinds of vegetation met with, the road through the Carnarvon Ranges and other interesting aspects. Views were included of the Town Common, Townsville, and Magnetic Island.

For the May meeting, Mr. J. J. Selvage entitled his talk "Naturalist on Holiday." He spoke of a recent voyage down the coast to Melbourne, and his experiences as a naturalist and traveller, giving an interesting account of the birds he observed, and the country passed through. He also gave his usual monthly report from Stuart, and exhibited preserved specimens of the brown snake from Stuart and a taipan from Stanley, pointing out the differences.

The Field Day was a "members' field day," members to report their observations at the next regular meeting.

The May Meeting was a members' night. Mr. Sleigh mentioned the various birds noted in the Town Common, especially the pygmy geese white eyed duck, some snipe and coots. Mr. Brock spoke on the migration of birds in the riggings of ships and conjectured on their intelligence as to the direction the ship was taking, and to their knowledge when to leave and when to return. Different species of mosquitoes were spoken of, and a large specimen, **Megarhinus**, was exhibited by Mrs. Kennedy. The larvae of this carnivorous genus preys on smaller larvae.

The second half of the meeting was devoted to the botany class by Mr. Keith Kennedy. Specimens were exhibited to show the structure of flowers and fruits. He mentioned that the renowned German poet, Goethe, was also a distinguished botanist, who showed that all flowers are modified leaves. This mutation theory was adopted at the time by botanists, who thus anticipated the theory of evolution promulgated by Darwin and Wallace in later years. Field Day was to Cape Pallarenda.

North Queensland Naturalists' Club

PRESIDENT'S ANNUAL REPORT, 1951-2

By A. A. READ

Again I have much pleasure in presenting the Annual Report of the North Queensland Naturalists' Club. This report is the 20th since the Club's inception, and the second occasion on which I have had the honour of being in the chair at the close of the yearly activities.

This September meeting has always been regarded as the end of the Club's financial year, and the beginning of a new one, and, on looking back over this year's achievements I feel that the Club's officers can have every reason to feel satisfied that those achievements are in every way in keeping with the past.

We really started our activities with a Wild Nature Show at the beginning of October, which was held in the Remilton Hall at the Parramatta Show Grounds, on the occasion of the 75th Anniversary and Back to Cairns Week.

That Show was quite a success, both financially and in public interest, and in spite of adverse weather during some of the time, I should say that close to two thousand adults and children came to the pavilion to view the exhibition.

That was a very big effort on the part of the Club, and I will always feel grateful for the wonderful team work done by the committee and members, in helping to arrange the transport facilities, and enthusiasm shown in the arranging of the exhibits throughout the show.

Our outings have not been as numerous as could be wished for, but on the four occasions when these events took place they were very well patronised, sometimes there being up to sixty adults and children present.

The first one was to the mouth of the Mowbray River last October, the second to Behana Creek, the third to the mouth of Hartley Creek, and the fourth in July, to the Boulders, near Babinda.

On that occasion we had the party of southern naturalists, headed by Mrs. Messmer, with us. That party was the first of its kind that the Club has catered for, members of the club having arranged the whole of the itinerary, transport, hotel accommodation, camping arrangements on Double Island, and catering. It was quite a success, the Club having gained some very useful experience to our benefit in the handling of any further requests of that kind. The thanks we have received and friendships made have more than repaid for any trouble we may have had in the organising.

As regards speakers for our monthly meetings they have not been as numerous as one would like, but each speaker was outstanding in his respective subjects.

We had Mr. T. Tuckerfield, of W.A., who gave us a very illuminating insight of mission work, and the coastal line of Northern and Western Australia, accompanied by colour slides. Mr. Cliff Cantrill, on two occasions, held our interest, once with quite a descriptive talk on astronomy, and again on Aboriginal drawings in the Kimberleys.

Then we had Mrs. Messmer's address, also with colour slides, and although I was not able to be with them on that occasion, the reports I had on my return from the North showed that it was very highly appreciated by all members and visitors at the meeting.

Speaking of the showing of colour slides it is always very difficult for us to be able to procure a projector, and I look forward, in the not far distant future, to the club possessing one of its own. We almost lost the pleasure of Mr. Tuckerfield's address through this lack.

Last year, the Club inaugurated the annual competition for the H. Flecker Natural History Medallion, which carries a prize of £2/2/-, and a mounted medallion with the winner's name inscribed.

The first was won by one of our members, John McLoughlin, and this year it has been won by Miss Maureen Courtney, daughter of one of our members.

I would have liked to have seen the medallion presented to Maureen on this, the final meeting of the year, as on the last occasion, but on careful consideration, I feel that the event warrants a better place in the programme of a meeting than being wedged in between the election of officers, annual reports, and so on. Therefore, I have taken it upon myself to hold it over until our next meeting, and should that seem more fitting perhaps the Club would see fit to use that date, the October meeting, to present it in the future.

This then is my report on the achievements of the Club during the past year I have been in office, and I feel sure that whoever carries on in my place in the coming year will have the same support from the committee and members as has been extended to me, and I would like to take this opportunity of thanking all concerned for making my term as pleasant as it has been.

North Queensland Naturalists' Club.

Meets at School of Arts, Shields St., Cairns, usually on second Tuesday in each month, at 8 p.m.

MEETINGS

8th July, 1952: Short talk by Mr. C. Cantrill on "The smallest star, smaller than the earth, yet heavier than the sun."

12th August, 1952: Address by Mrs. Pearl Messmer on Indigenous Flora of the Hawkesbury Sandstone and Wyanamatta Shale adjacent to Sydney, illustrated by beautiful slides in Technicolor.

9th September, 1952: Annual Meeting. Presidential Report, Balance sheet showed credit balance of £98.18.11. Officers elected: Life Patron, Dr. H. Flecker; President, A. A. Read; Vice-Presidents, R. J. Gorton, Dr. H. Flecker, A. B. Cummings; Hon. Sec., J. Wyer; Hon. Assist. Sec. and Librarian, D. R. Peiniger; Members of Committee, C. Cantrill, G. Atkinson, J. M. Gray and Mrs. Price; Hon. Auditor, J. M. Gray.

AMENDMENTS TO CONSTITUTION AND RULES

The following alterations in the above were made:—

Clause 4 (b). Delete "and exclude such appointees from being elected to any executive office in the Club during the period they hold such ranks of office."

Clause 5. In the phrase "Election shall be by secret ballot," delete the word "secret." Add sentence "If any member so desires, the election shall be by secret ballot."

Clause 16. For "At the meetings of the Council, 5 members thereof shall form a quorum," substitute 4 for the number 5.

Clause 17. Delete the words "by proxy, or by a representative duly accredited."

Delete paragraph "Any member who shall be absent from general special or Council meeting shall be entitled to appoint any other person as a proxy to vote for him, such appointment to be made in writing to the Chairman of the meeting."

14th October, 1952. Resolved to prepare new Check List of Orchids with illustrations. The second Annual Flecker Natural History Medallion was presented to Miss Maureen Courtney by Dr. H. Flecker. Mr. Heath gave an address on cyclones, illustrated by blackboard drawings.

CLUB OUTING

27th September, 1952: A visit to Mrs. Legge's property at Kuranda, on the bank of the Barron River, proved very enjoyable and instructive. Excellent weather prevailed and free use was made of power and other boats available for exploring the river in the neighbourhood.

NEW MEMBERS ELECTED

8th July, 1952: Dr. Fred Bainbridge, 54 Gatton St., Cairns; W. Walker, Marshall St., Machan's Beach; Sister Eileen M. Wall, 402-4 Pacific Highway, N. Hornsby, N.S.W.; Mrs. C. M. Aitken, Esplanade, Cairns; Douglas Johnston, Machan's Beach.

9th Sept., 1952: H. A. Bruce, 527 Gregory Terrace, Brisbane; E. Stables, Earlville; N. F. Loader,

234 Edinburgh Rd., Castlecrag, N.S.W.; Mrs. E. V. Yeatman, Postmistress, Rossville; Mrs. E. D. Whitton, Barron Heads; Mrs. E. Stables, Earlville; Mrs. A. Taylor, Machan's Beach; Miss O. Stables, Earlville.

14th October, 1952: Mrs. A. I. Price, Scott St., Cairns; Mrs. Harland H. Smith, 271 McLeod St., Cairns; Mrs. E. L. Cupitt, Cape York; Howard Smith, 271 McLeod St., Cairns; R. J. Cupitt, Cape York; G. L. Williams, Archer Point; William Hosmer, 45 Collinson St., Cairns; Mrs. N. M. Molesworth, Titirangi, N.I., N.Z.

Rambling Memories

By GORDON F. LEITCH, Radical Bay, Magnetic Island

KOOKABURRA ATTACKS SNAKE

I have been watching a kookaburra (**Dacelo gigas**) kill a snake. He had been belting the snake, about two feet three inches in length, on the bough of a tree for a good ten minutes. Although it was not more than ten feet from me, I cannot name the snake,but I think it was a fast, grey snake, which inhabits the "spinifex" (**Triodia** or porcupine grass) known locally, of course, as a spinifex snake.

However, the interest to me was that it seemed likely that I was to witness a kookaburra eating a snake. I have seen many kookaburras kill snakes, but I have never seen one eat one. As this was one of our own hand fed birds, I expected to have my curiosity satisfied. But no, quite sure that the snake was more than dead, he hurried away with it into the scrub.

GOANNA SWALLOWS LIVING SNAKE

Thinking back to other snake eaters, I remember a grand stand seat I once had at a battle between a goanna (**Varanus**) and a brown snake (**Demansia textilis**). Riding down a bore drain on the Downs country beyond Hughenden I came upon the conflict. The battle was already joined and a good big goanna over four feet long had a brown snake at least four feet six inches by the tail. I brought my horse to a standstill very close to the combatants, and for nearly half an hour we held our position as still as possible. The goanna was fat and strong, as was the snake. Sleek and beautiful, the latter moved with the whip like movement that no other snake can match. To my surprise, the goanna started to swallow the snake tail first without in any way disabling it. Slowly, bit by bit, inch by inch, he got it down. The first six inches took a long time. To say the snake accepted its fate is hardly correct, for he objected strongly. He writhed and twisted. He struck and bit and worried the goanna in almost every conceivable place, but except for closing his eyes when necessary, the goanna kept up the inexorable gulping. Each gulp gained a little more snake.

At one stage, the snake tried to escape down a crack in the parched black soil and got down to a point where the goanna's jaws met the ground. It looked like a stalemate. However, bracing his forelegs firmly, the big lizard sat back and pulled. Little by little, the snake came and with every little gained, a gulp meant a bit down the goanna's throat. This was the beginning of the end. Though fighting hard and biting constantly, the rate of swallowing increased, and the last I saw of the snake was its head disappearing in the swollen interior of that fearsome dragon.

The question I would like solved is—Did the snake's fangs penetrate the goanna's hide? If so, was the poison effective? The goanna seemed quite happy about it and waddled away without showing any signs of looking for an "antidote," Johnson's or any other.

(To be continued in the next issue).

Sunday Australian Printery.

The North Queensland Naturalist

The Journal and Magazine of the North Queensland Naturalists' Club
Established 1932

VOL. XXI **Cairns, 1st March, 1953** **No. 104**

Irukandji Legends Of The Big Tree Near The Yarrabah Track, Brown Bay, North Queensland

As told by Dudley Bulmer, of the Ran bee (Blood Totem)

By DOUGLAS SEATON

In the dream time, there was a flood over the land and all that was showing above the flood were the branches of the tree. A few survivors of the flood were swimming about looking for some place to land when a sea gull guided them to the tree, where they stayed until the waters receded. They then came down to earth and started to people the earth again. The tree was taken as a totem by the people who camped nearby and the old men of the tribe named the tree YOO-KOO-KARRI and called out to all the people **Bundelu jarpool** (do not cut this tree) or **Kondall koora** (we will kill you).

In the dream time, a man who could take the shape of a giant hawk lived in the branches of the tree. When he felt hungry he used to fly down and pick up one of the people and carry them up to his stick nest to eat them.

The tribesmen eventually got tired of the birdman eating the people and decided that he must be destroyed. None of the tribesmen could climb the tree, so they called on a wallaby for help. The wallaby made several attempts to jump up to the top of the tree, but failed. Next a cassowary tried to jump up and also failed, then a barramundi (giant perch) was asked to try, but he also failed as he was too far from his native element.

Eventually, two brothers from a nearby country came along, accompanied by two sand goannas, who were men in disguise. The brothers told the people that they would destroy the bird man. The brothers secured spikes of grass tree and climbed the tree, one on the north side and the other from the south. They set fire to the bird man's nest, and in a short time the remains of the bird man who had changed into his bird form, fell to the earth in flames, and the goannas led the joyful laughter of the people at the destruction of the bird man. They all called out, you will destroy no more people, and all was peaceful throughout the land.

Notes On Candalides hyacinthina josephina var. nov.

By E. J. W. HARRIS, Kuranda

(For Description and Illustration see last issue of this Journal)

I first discovered this insect as larva when searching for larvae and pupae of the western race, **C. simplexa**, at Stawell, Victoria. A large number (about 240) of larvae and a few pupae were shaken from a large, coarse-growing Dodder attached to scattered clumps of Mallee suckers. The pupae in this case were attached to dead Eucalypt leaves lying in the Dodder masses and not on the Dodder as far as I could detect. More pupae, however, were found under the loose bark of saplings, under dead leaves on the ground, but always on an object of a similar shade of light brown.

I was unable to distinguish these larvae which were in all stages of development, from those of **C. simplexa**, which I had bred on previous occasions from Kiata

(on the edge of the Little Desert, eighty miles to the north-west). I cannot find any evidence to show that these larvae differ from those of **C. hyacinthina.** (1).

The larvae were taken to Melbourne and fed without difficulty on smaller species of Dodder, common in the district. Development was rapid, but strong cannibalistic tendencies accounted for many of the larvae. After pupation of the survivors, two-thirds of them were given to my assistants with the collecting, Messrs C. McCubbin and W. Burt. When my butterflies started to emerge (2) in the latter half of December (3), they appeared to be a rather bright form of the typical race, but without the copper scaling in the male. I was somewhat surprised therefore, a few days later, to see what appeared to be a specimen of **C. simplexa** resting in the breeding cage which caused me to think that I had bred **C. hyacinthina** and **C. simplexa** from the same locality (4) and possibly the same food-plant. If this was correct it could be assumed that the two races were in reality two distinct species. However, as time passed I found that I had a series of females resembling both the typical and the western races as well as a number of intermediate forms and a series of males of a more or less constant shade of bluish purple.

An explanation of these peculiarities might well be found in the reasoning of E. B. Ford (5) who suggests that two strongly independent races that have arisen in isolation and have built up a balanced gene-complex suited to their respective environments, may eventually meet and produce hybrids. These hybrids, because of their inability to adjust themselves to the conditions of the parent races, exist only as small colonies in the borderline areas. They may be said to have formed a very sharp cline.

I feel that a lot more field work could be carried out to great advantage to our scientific knowledge, in areas to the south and south-east of the Little Desert, and that all clumps of Dodder should be investigated. The mid-season broods of **C. simplexa** and **C. josephina** are sharply defined, and the search for the larvae limited to the second half of November. Pupae are scattered and usually hard to find in sufficient quantity to be of use for research. Mr. K. Hateley, of Kiata, has recorded a breed of **C. simplexa** flying in late February and March, but these were probably a late emergence of the December brood. **C. simplexa** has an early brood in September and October which corresponds with the typical race in this respect.

Many who have seen **C. hyacinthina josephina** consider that it should be given specific rank, but I can find no justification for this view before further field work and an examination of genitalia of all three races has been completed to establish definite proof. I feel that **C. hyacinthina** and **C. simplexa** should stand as two well established races, and that **C. hyacinthina josephina** should at present be considered a hybrid race, possibly one of several along the fringes of the territories of the two main races.

NOTES

(1) Pupae of the three races are also indistinguishable.

(2) Emergence was complete by the end of December, except in one instance.

(3) One pupa held over until March produced a bright blue form of the female. (McCubbin had a similar experience).

(4) The total area of the colony was an acre in extent and no larvae could be found on the Dodder outside it. The nearest locality that I know of where the species is found is Gerang Gerung, seventy miles to the north-west. The race in this area is **C. simplexa.** There must, however be many places in the wild Grampian country where the species will be found.

(5) E. B. Ford, "Butterflies," Ch.13, "Races and Sub-species," P.282-3. "A situation of this kind is not always separable from one in which two sub-species, which have arisen in isolation, have extended their range until they

have come into contact as they may do, for instance after an ice-age. There will not necessarily be any sharp environmental discontinuity along the line where they meet, which could ensure that the types adjusted to one region will be eliminated owing to their inappropriateness in the other. Yet, in such circumstances two sub-species may maintain their identity unimpaired, and produce a hybrid population only along a relatively narrow belt between them. It may well be asked why they do not turn into a cline once they can interbreed and the genes from one subspecies can flow freely over into the other. It is not hard to answer this question. The two sub-species, having arisen in isolation, will have been adjusted independently to their environments where they will have evolved a distinct genetic constitution adapted to their particular needs and in which each will have built up a gene complex, balanced to give harmonious working. When the two meet and interbreed such a balance will be upset in the hybrids, which will therefore be at a disadvantage when compared with either of the selected types. Consequently, though such types will constantly be produced by crossing, they will be as constantly eliminated by selection and prevented from spreading far beyond the narrow belt where they are formed."

Notes On Australian Podomyrma

(Hymenoptera: Formicidae)

By DR. W. L. BROWN, Jnr.
Museum of Comparative Zoology,
Harvard College, Massachusetts, U.S.A.

The ant described as **Podomyrma parva** by Crawley (1925, Ann. Mag. Nat. Hist. (9) 16: 592-593, worker) is a NEW SYNONYM of **Podomyrma elongata** Forel (1895, Ann. Soc. Ent. Belg. 39: 428, worker). Specimens collected and determined by J. Clark, original collector, compare satisfactorily with Forel's description of **P. elongata** (allowances made for the usual metric discrepancy) and with eastern Australian series of the latter. Series were examined from Western Australia: Armadale (J. Clark), Pemberton (W. M. Wheeler). South Australia: Lucindale (Feuerheerdt), Adelaide (Wheeler). Victoria: Heathcote (W. L. Brown). Australian Capital Territory: several localities near Canberra (T. Greaves), Blundell's Creek (Wheeler). The colour varies inter- and intranidally from reddish-tan to blackish-brown, with the ali-trunk often lighter than head and gaster. According to Forel, **P. elongata** ranges northward in Queensland to Atherton.

Podomyrma grossestriata Forel (NEW STATUS) was described originally as a subspecies of **P. elongata** (Forel, 1915, Ark. f. Zool. 9 (16): 50, worker), but should now be regarded as an independent species. Two specimens from the Cairns district (A. M. Lea) before me resemble **elongata,** but have broader heads, shorter petioles, and very coarse, well-spaced costulate sculpture, in these features agreeing with Forel's description of the subspecies. The differences are very clearcut, and the two species may be sympatric in parts of the Atherton Tableland. Known localities for the two species are only a few males apart in this area. **P. elongata** and the much more common **P. adelaidae** of Frederick Smith (**P. bimaculata** Forel) nest by preference in the galleries of small borers made in sound wood of living and dead trees, usually in woodlands of the moderate to low rainfall types. **P. adelaidae** is found even in very arid parts of South Australia where it frequents the red gums (**Eucalyptus camaldulensis**) along the dry creek beds.

Rambling Memories

By GORDON F. LEITCH, Radical Bay, Magnetic Island

(Continued from last issue)

BUZZARDS DESTROYING EMU EGGS

And going on from here I recollect this was a very memorable trip for another reason. A few days prior to this incident, I was riding in company with the late Mr. F. L. Burney, when he pointed out a pair of black breasted buzzards (**Hamirostra melanosterna**) and told me he had actually seen them breaking emus' eggs by dropping gibbers on the nest. It seemed fantastic, and I had never heard of it before, though later the blacks confirmed it more than once.

Less than a week later, I had the very great privilege of seeing it for myself. My attention was drawn by the actions of a pair of buzzards rising and falling over a patch of grass. I rode over to investigate and I got quite close before the birds soared away to a great height, and saw very distinctly what they were doing. Sliding down with their very distinctive flight, each picked up a stone and flapping over the nest, dropped it. I noticed two stones had found their mark and three eggs were broken or cracked. But I also noticed that many stones had missed their mark although I doubt if any had been dropped from more than ten or twelve feet. The emus had retired and were circling a good quarter of a mile away. I would have liked to have seen the opening move, which must have meant the driving away of the parents.

I lately saw in some nature notes a description of the rifling of an emu's nest by the buzzards. It described the birds as using the stones as hammers. This was not so in the above incident, for they definitely dropped the stones from the air.

I think the use of an instrument by birds, or by any animal except, perhaps, the primates, to obtain their food is very rare. I can only think of a not quite comparable instance of certain seabirds dropping shell fish on rocks to open them.

THE WEDGE TAILED EAGLE

A very small boy in the middle eighties of the last century stalked along behind King Ber-ad-sa, the last reigning chief of the now vanished Gunbower Tribe on the River Murray. The laddie carried a set of miniature spears, a woomera and boomerang, and tried to imitate his friend and teacher of bush lore. Suddenly a large bird cleared the tree tops and sailed serenely ahead less than a hundred feet above us. I was that boy.

The aged aboriginal pointed upward and called **Argela. Argela** was the tribe's name for the Wedge Tailed Eagle, **Uroaetes audax,** and my first introduction to this noble bird. Argela is not far from the Latin **aquila,** eagle probably derived from the rather plaintive call of many birds of prey. Since that date, I have seen, robbed and slain the wedge tail in all sorts of climates and terrain, the Southern Alps, the Grampians, in inland plains of the Murray Basin, Tasmania, Central Australia, and the North Western Downs of Queensland. He seems to flourish anywhere, but the bird of the north seems to lack much of the size and nobility of those of the southern ranges.

I have had to destroy, as overseer on a sheep property many hundreds of them, and I think largely unnecessarily, for in one season, out of 73 young which I personally liquidated, only one nest was fed on lambs. But in and around that nest containing three lusty young birds, the re-

mains of twenty-nine lambs proved the parents' guilt. This is the rogue exception which so often condemns the race.

From these notes though, please do not brand me as an inveterate destroyer of argelas. The most pleasant memories are connected with the many hours spent on the rocky slopes of Pyramid Hill and Mount Hope, those rocky outcrops of the North Victorian plains, watching the planned hunting of a pair of enormous birds hunting hares. I say enormous advisedly, for I have seen a tape measure put across the wings of a big female at Pyramid Hill record ten feet three inches, and I understand that in this locality this has often been exceeded. In Northern Queensland and in Central Australia I have never measured one which would reach to seven feet.

However, coming back to our hunting.

EAGLES' ACQUIRED TECHNIQUE OF CAPTURING HARES

The acquisition of a craft by birds is a nice question, and could be debated at length, like the amazing skill of birds in building a nest, but is outside the scope of these observation notes, but I have repeatedly noted the retentive memory of birds of prey. The Wedge Tailed Eagle (**Uroaetas audax**) I have known intimately from childhood and I have watched the well reasoned hunting plans of a pair for months on end. These include the capture of hares using the wire fence, once the hare's refuge.

Now, this is an acquired technique, as not many generations of wedge tails have been accustomed to either hares or fence. But I am moving again from the notes of observation I stressed to discussion, but I would like to mention the memory and observation of one large wedge tail I knew in captivity.

He was a large old male in a good sized flight aviary in a Wild Life Sanctuary. I got to know this bird by visiting him when the place was empty of people. I never fed him, but talked to him and made friends eventually to the extent of fondling his head and letting him mouth and nibble my hand, I won't say without bloodshed early in my acquaintance.

Later, I saw him at long intervals, and then only at week-ends with thousands of other people. If I passed his enclosure he would fly like a tornado to the wire and play with my hand with every appearance of pleasure. My last visit was after the lapse of a couple of years, and the greeting was the same. Otherwise, the bird eyed the crowd with lordly disdain and was much respected by his keepers. His observation and memory must have been acute to pick me from hundreds of other chattering featherless bipeds as they passed. I hope to see him again some day.

I had finished, but perhaps I should enlarge on the wedge tails and the hare. Sitting on the slopes of Mount Hope, a granite outcrop on the plains of Northern Victoria, I used to see this pair of wedge tails hunting hares on the open paddocks below me. The hare once alarmed, would make for the nearest wire fence, dodging the swoops of the birds as he went. Once under the sheltering wire he was safe, and the birds, after a flapping sortie or two, would leave to hunt elsewhere.

Later, they adopted other tactics. After the hare had reached the fence, one bird would continue to harry him, keeping him on the move. The second bird would drop like a stone and hop close to the fence ahead of the hare. The astonished animal would immediately swerve from the fence and frequently, in the silly way of hares, stop to see what this meant. That was the end of him for the active bird struck him like a shell and bowled him over. Of course, the birds were not always successful, but I have seen the ruse succeed many times. A hunting technique acquired in one generation!

And now I am going to see if I can find that kookaburra eating the snake.

Drongos Nesting

By GORDON F. LEITCH, Radical Bay, Magnetic Island

A pair of drongos, **Chibia bracteata,** have nested on our nesting tree together with two pairs of Southern Fig Birds, **Sphecotheres vieilloti,** and two pairs of Little Friar Birds, **Philemon citreogularis.** This nesting tree is an isolated Moreton Bay Ash, **Eucalyptus tessellaris,** although within fifty feet of several similar trees on the edge of a belt of scrub, mostly Burdekin Plum, **Pleiogyne solandri.**

It is also near, and in full view of our lounge, and we pass under it many times during the day. Last year (1951) five pairs of birds built in it, and a pair of drongos started a nest, but abandoned it when near completion. This year, 1952, a pair of drongos have built and laid eggs, which we expect to hatch any day now.

The building of this nest is not the slap hazard, quick job of the fig birds, or the noisy, rushed construction of the friar birds, but a carefully planned affair, taking many weeks to construct. We watched them choose a site; this took at least a week, then they examined the fork a square, stiff terminal, and cleared it of all leaves and twigs.

The next process was to weave a "ghost" nest. One bird for days went through the motions of weaving a nest using no material. She did everything except sit in it. In the meantime, the other bird got to work on the trunk of the tree. Above the rough black "mitten," the smooth, satiny bark was just showing signs of splitting and lifting. By seizing a loose edge and fluttering backwards, the bird tore off long strips of pinkish bark, which were dropped on the ground. In about a week he had the first six feet of the upper bole clear of all loose bark and all knot holes and irregularities cleaned up and polished.

Why did he do this? The old inhabitants explained that this was to keep snakes from climbing, but we said it was for insects.

Now was the time for building the nest. Carefully and very solidly, the little round nest was woven hammock fashion across the fork. Every strand seemed to be turned at least once around the wood, and actually the identical motions of the "ghost weaving" were repeated. In about two weeks' time the nest was complete, though still transparent, eggs were laid and the birds began to sit.

To our disappointment they abandoned it in less than a week, due we think, to egg robbers, the butcher birds. We saw no sign of our attractive black rascals for a week or more, when they returned with another pair of friar birds. These at once started with unlimited chattering and fuss to build a nest within two feet of the drongos. These, with the greatest harmony, took up residence again and laid three eggs.

At the same time another pair of fig birds came along, threw a nest together, and the three mother birds sat in to hatch their respective families only a few feet apart.

In the meantime, to us a strange thing was happening. The drongos have been assiduously cleaning and polishing the bole of the tree. There is no question of insects now for there is no possible harbour for them. At the top of the rough black bark of the lower trunk, normally ragged and curling back, the bark has been smoothly bevelled back as though done with a rasp and finished with sand paper. Over this, only the myriad minute scratches of the birds' claws mar the perfectly smooth, satiny trunk.

Then they got to work on the bushes near the tree and removed every leaf and twig on the sides facing the tree for a distance back of about three feet. To cap the whole performance one bird tried desperately to remove some heavy K wire netting which was nailed to the base of the tree.

Is the old inhabitant right? Is it fear of snakes? Or is this an Asiatic tropical bird guarding against monkeys?

The drongos are not very trust-

ing birds, but one evening I was examining a large cicada which I was holding, when there was a snap and the cicada sailed away in the beak of a drongo.

We hope they will become more trusting, and that they will not take their young ones away too soon.

Check List Of North Queensland Orchids

ERRATA

It is regretted that several headings of Tribes and Subtribes have been inadvertently omitted.

Subtribe ix. **Gastrodieae** should read **Pogonieae.**

Above genus **Pholidota** insert Subtribe x. **Coelogyniinae.**

Above genus **Liparis** insert Subtribe xi. **Liparidinae.**

Above genus **Malaxis** insert TRIBE **STURMIINAE.**

Above genus **Dendrobium** insert TRIBE DENDROBIINAE.

Remove genus **Podochilus** to separate TRIBE PODOCHILINAE.

Author of **Bulbophyllum crassulifolium** (A. Cunn. ex Lindl.) Rupp.

Author of **Acriopsis nelsoniana** F. M. Bail.

Key to figs. of **Bulbophyllum evasum.** For "Flowers" read "Flower."

Book Review

27. DANGEROUS SNAKES OF AUSTRALIA, by Eric Worrell, 64 pp., coloured photographic cover, 32 photographic illustrations, Angus and Robertson, Sydney, undated. Couched in the simplest of language, void of any technicalities, notes are given on the possibility of attack, prevention, venom, venom apparatus, preparation of anti-venom serum, first aid treatment, etc. The snakes dealt with are the taipan, **Oxyuranus scutellatus,** three varieties of tiger snake, **Notechis scutatus,** death adder, **Acanthophis antarcticus,** brown snake, **Demansia textilis,** and five other species of **Demansia,** including two whip snakes, the copper head, **Denisonia superba,** and two other species of **Denisonia,** the black snake, **Pseudechis porphyriacus,** and six other species of **Pseudechis,** two species of broadheaded snake, **Hoplocephalus,** and the rough scaled snake, **Tropidechis carinatus.** Sea snakes of the family **Hydrophidae** are also dealt with.

North Queensland Naturalists' Club

Meets at School of Arts, Shields St., Cairns, usually on second Tuesday in each month, at 8 p.m.

MEETINGS

11th Nov., 1952: Resolved that the various Shire Councils in North Queensland be written to suggesting the adoption of names of aboriginal tribes be adopted as place names as opportunity occurs.

Exhibits included the nest of the mistletoe bird (**Dicaeum hirundinaceum**), stag beetle (**Phalacrognathus muelleri**), **Cochlosperrum,** etc.

4th December, 1952: A Christmas Social was attended by some fifty members and their friends, when subjects of natural history were replaced by musical numbers and other entertainment appropriate to the Christmas season, when all enjoyed themselves. Dr.

C. H. Knott showed some interesting Cinecolor movies.

9th December, 1952: Mr. Vlasoff spoke of the appalling destruction of the dugong, and even of some of the protected birds such as the bustard, as openly advertised in the sporting journals of the south. It was resolved to bring the matter under the notice of the Zoology Section of the A.A.A.S. at the next congress to seek some remedy and protection for these. Mr. C. J. Cantrill spoke on the origin of Christmas Day, and the date of same.

13th January, 1953: One of the Cubomedusae of the family Carydeidae was exhibited. It was thought that this might be the cause of the newly described Irukandji sting, but confirmation of this will have to await next summer season. Mr. Lionel Law is taking an active part in the investigation.

10th February, 1953: Issue of new edition of the Check List of N.Q. Orchids at a cost of 2/6 was announced. Mr. S. Dean reported visiting the Melbourne Aquarium who desire assistance in stocking their tanks with tropical material.

EXCURSION

16th November, 1952: A delightful day was spent on Mr. Rijker's Farm, at Glen Boughton. Beyond the acres of pineapples, the primitive rain forest resembled somewhat a botanic garden in the richness and variety of vegetation. A homestead without any external walls but closed in by wire screens, was a most unusual feature.

NEW MEMBERS ELECTED

11th November, 1952: Wm. Hosmer, 45 Collinson St., Cairns; G. L. Williams, Archer Pt.; Mrs. N. Molesworth, Titirangi, Auckland, N.Z.

9th December, 1952: Sister Ruth Gibson, Herberton Hospital.

13th January, 1953: Lloyd Grigg, Box 265, Cairns.

10th February, 1953: Stanley F. G. St. Cloud, Moody St., Cairns.

Sunday Australian Printery.

The North Queensland Naturalist

The Journal and Magazine of the North Queensland Naturalists' Club
Established 1932

VOL. XXI | Cairns, 1st June, 1953 | No. 105

A Filefish New To Queensland

Balistoides viridescens (Bl. Schn.)

By GILBERT P. WHITLEY, F.R.Z.S.

(Contribution from the Australian Museum, Sydney)

Filefishes or triggerfishes (family **Balistidae**) are similar to leatherjackets, except that the bodies are covered with rough, hard scales, like the surface of a file; the trigger-like dorsal spines can be locked in an erect position by a bony mechanism worked by the muscles of the fish. They are said to be poisonous as food.

On 3rd December, 1945, Mr. A. McKeddie obtained a filefish **Balistoides viridescens** (Bl. Schn.), at Trinity Beach, 14 miles north of Cairns, and photographs of it (here reproduced) by Mr. H. Chargois, were submitted to me for identification by the North Queensland Naturalists' Club (ref. no. 3613). The late A. R. McCulloch had collected another example many years ago on Cairns Reef, Cooktown, but the species has not hitherto been recorded from Australia.

Bloch & Schneider (Syst. Ichth. 1801, p.477) originally described **viridescens** from Mauritius. More than 100 years later it was named **Pachynathus nigromarginatus** Tanaka (Journ. Coll. Sci. Imp. Univ. Tokyo, xxiii, 1908, art.7, p.39, pl.i., fig.4) from Japan. The species has a wide range, the Australian Museum having specimens from Bali, Dutch New Guinea, Papua and the Andaman Islands. According to Herre (Philippine Journ. Sci. xxv, 1924) it reaches nearly one metre in length.

The generic name **Balistoides** was proposed for this species by Fraser-Brunner (Ann. Mag. Nat. Hist. (10) xv, 1935, pp.659 & 662).

Ten species of filefishes have so far been recorded from Queensland, but others are known to occur and should be sought and preserved. The ten known are: **Balistes garnoti** Cast., **Sufflamen fraenatus** (Latr.), **Hemibalistes chrysopterus** (Bl. Schn.), **Balistoides viridescens** and **conspicillum** (Bl. Schn.), **Pseudobalistes fuscus** (Bl. Schn.), **Abalistes stellatus** (Anon.), **Balistapus aculeatus** (Linn.), **B. echarpe** (Anon.) and **B. undulatus** (Park).

Another New Saccolabium (Orchidaceae) From North Queensland

By the REV. H. M. R. RUPP, Willoughby, N.S.W.

S. subluteum, sp. nov.

Planta epiphytica, parva, caule c. 1 cm. longo, radicibus paucis, aliquanto crassis. Folia c. 3, usque ad 6 cm. longa, 15 mm. lata, acuta, crassa, Racemi pauci et brevissimi, crassissimi, vix 5 mm. longa, floribus usque ad 5. Pedicellum cum ovario 3 mm. longum. Bractea obtusa, viridis. Sepala petalaque sublutea, 3 mm. longa, petala paulum angustiora quam sepala. Labellum album, trilobatum sed lobis fere obsoletis; calcar lageniforme epistomio

parvo intra foramen. Columna brevis et crassa.

A small epiphyte with a stem about 1 cm. long, and few rather thick roots. Leaves about 3, up to 6 cm. long, 15 mm. wide, acute, thick.

Johnstone River, near Upper Daradgee, leg. S. F. Goessling-St. Cloud, 10/1952. Flowering at West Cairns 4/1953.

This new species, though small

Saccolabium brevilabre (Mueller) Rupp

of rather thick texture. Racemes few and very short and thick, hardly 5 mm. long, with 3 to 5 flowers. Pedicel with the ovary 3 mm. long. Bract obtuse, green. Sepals and petals dull yellowish, 3 mm. long, the petals a little narrower than the sepals. Labellum white, trilobate, but the lobes almost obsolete; spur flask-shaped with a small valve inside the orifice. Column short and not particularly attractive, is very distinct from any other Australian **Saccolabium**. Its outstanding features are (1) the unusually short and stout racemes, with few flowers, and (2) the dull yellowish colour of the perianth. Mr. St. Cloud discovered it while searching for a Vanda which had been reported on the Johnstone River, but which he was unable to find.

A Note On the Orchid Saccolabium Brevilabre (F. Muell) Rupp.

By the REV. H. M. R. RUPP, Willoughby, N.S.W.

This small Queensland epiphyte was placed by Mueller (Fragm. XI, 87) in the genus **Cleisostoma**, now regarded as obsolete. The locality was Mount Dryander, in the Proserpine district of North Queensland, the collector being Fitzalan. In "The Breaking Up of the Genus Cleisostoma in Australia" (Vict. Nat. 57 (1941) 216), the present writer removed **C. brevilabre** to the genus **Saccolabium**. At present three Australian species are recognised in this genus: **S. brevilabre** (F. Muell), Rupp, **S. loaderanum**

Rupp, and **S. tierneyanum** Rupp. The first two of these are closely related; the last is a much larger plant.

S. **brevilabre** was described by Mueller from dried material collected by Fitzalan at Mount Dryander. For many years this seems to have been the only record; it is the only one given by F. M. Bailey in the **Queensland Flora** (1902). I cannot find any definite record of the plant after Fitzalan's (probably 1878) until 1934, when specimens were sent to me from the type locality by K. McPherson. Ten years later, W. W. Abell sent specimens from Yungaburra, on the Atherton Tableland. N. F. Loader collected it in this locality in 1952. In 1945, the late C. T. White forwarded a plant from Noosa, in Southern Queensland, asking for confirmation of his opinion (which was quite correct) that it was **S. brevilabre.** This brought the range of the species some 400 miles S. of Mt. Dryander; and it was found again at Noosa by T. E. Hunt in 1946. Finally, A. Johnson sent specimens in 1952 from Bambaroo, between Townsville and Ingham.

Thus the distribution of **S. brevilabre** is seen to be far more extensive than was supposed; from Yungaburra to Noosa is probably not far short of 700 miles. It is also a more variable plant than was realised. The stem may be elongated to about 12 cm., but in MacPherson's Mt. Dryander plant, which was flowering very freely, it hardly exceeded 2 cm. Mueller gave no indication of the colouring of the flowers. The dominant colour appears to be a very light green, but this is blotched or suffused in varying degrees by a rich red-brown, and the stigma is flanked on each side by a ridge of purple, which is sometimes very bright and sometimes pale.

Saccolabium subluteum Rupp

The nearest relative of **S. brevilabre** is undoubtedly **S. loaderanum.** The latter is a dark green plant with very obtuse leaves, and a stem reaching 18 cm. **S. brevilabre** is light green, with acute leaves. In **S. loaderanum** the valvular appendage of the spur is just inside the orifice; in **S. brevilabre** it is half-way between the orifice and the apex. In the latter species the rostellum is remarkably conspicuous, protruding just above the stigma and furnished with a bifid or even trifid tip.

Balistoides viridescens (Bl. Schn.)
Photo by H. Cargois

An Exceptionally Large Stone Axe Head

By KEITH KENNEDY, Museum of Music, Townsville

In the North Queensland Naturalist of 1st March, 1950, there is described a large grooved axe-head from the Tully Falls. Since then, the Museum of Music, Townsville, has acquired one much larger, found July, 1951, by Mr. Charles Freeman, of the Townsville Orchid Society, partly buried in the ground at Double-Barrel Creek, near Billyana, Upper Murray River, N.Q. It is ovate in outline and lenticular in section, but has no groove as has the Tully specimen. The illustration gives an idea of its size.

Measurements are: Length 46 cm., greatest thickness 3.75 cm., which occurs at a distance of 10 cm. from the butt end. From there the blade thins down to the cutting edge. Weight 14 lbs. 1 oz.

An axe of this size would seem to be too heavy for practical use, but it must be remembered that the North Queensland rain forest aborigines also made very large and cumbersome wooden swords and yet were able to use them.

If not for use it might have been made for ceremonial purposes. So far, there is no record of the aborigines using ceremonial axes, but that does not rule out the possibility that they might have done so during their secret rites.

Then there is the personal element, for it might have been made by an aborigine wishing to have something bigger and more imposing than those of his fellows.

As far as I know, no person has recorded seeing any of these large axes in use, and until evidence is obtained as to why they were made, their function must remain a matter of conjecture.

Large Stone Axe Head

Townsville And District Naturalists' Club

Meets on First Friday of month in Adult Education Centre Lecture Rooms, Wickham Street, Townsville. President: Mr. K. Kennedy, Esplanade, and Rose St., Kissing Pt. Hon. Secretary: Elizabeth Kennedy, Box 178.

MEETINGS AND FIELD DAYS

June, 1952: Miss Nancy Hopkins described her experiences as naturalist on the journey from Mataranka to Alice Springs. The trip covered the Upper Roper River, Elsey Station, Daly Waters, Newcastle Waters and Elliott and Longreach Lagoons. Around Alice Springs she explored the McDonnell Ranges and visited Hermannnsberg, which had turned into a "dust bowl" by the cutting down of its trees. She gave a vivid description of the natural features and flora and fauna of the country traversed and told how she saw some aboriginal red hand marks on a bridge, made by the blacks blowing some red ochre over their hands.

This was followed by monthly botany class by Mr. Kennedy when he spoke on indehiscent dry fruits. As he showed the specimens he stressed that it was impossible to study properly unless actual specimens were examined.

The Field Day was to Mt. Stuart.

July, 1952: Mr. C. Freeman spoke on the many forms, distribution and evolution of cacti, and explained their various devices to conserve moisture, enabling them to survive several dry seasons. Exhibits of some rare cacti were shown and their peculiarities pointed out, after which pictures of the larger species, including the giant cactus of Arizona. Mr. Selvage read his report. Mr. Kennedy spoke about roots and their variations, and specimens of aerial, clinging, parasitic, buttress, air breathing, and many other roots were shown.

The Field Day was to the Town Common.

August, 1952: Miss N. Hopkins spoke on the birds of Mataranka, where she spent several weeks studying the avifauna. She noted two sharply divided types of country—thick jungle of the river banks and further out the dry lands—each with distinctive bird life vividly described, illustrated on the screen, explaining details of markings and colourings.

The Field Day was to Pallarenda.

September, 1952: Annual General Meeting. Retiring Committee members were unanimously elected with the addition of Mrs. D. Caldwell. A list of birds observed by Miss Hopkins and club members during bird week was forwarded to the Bird Observers' Club, Melbourne.

The Field Day was to Three Mile and Pallarenda.

October, 1952: Mr. S. Brock gave a very interesting talk on a recent trip to Bowen and district, where he collected many beautiful shells which he exhibited, indicating localities. Mr. A. Dann showed coloured lantern slides of Victorian wild flowers of the Castlemaine District, also some Palm Island pictures. Miss Hopkins exhibited nests of leaf cutter bees (**Megacheilidae**) and other entomological speciments.

The Field Day was to Mrs. Freeman's, to inspect her Cacti Collection.

November, 1952: Members' night when the Dingo, **Canis familiaris antarcticus** was discussed. A letter addressed to the Mayor of Townsville from U.S.A. was referred to the Club. Mr. K. Kennedy read a paper on the subject. Remains of the dingo have been found in certain caves associated with those of the **Thylocine** and other marsupials now extinct on the mainland, indicated that the dingo had been in Australia for a considerable time and was probably introduced by the early aboriginals.

The Field Day was a Members' Field Day.

December, 1952: Mr. Kennedy spoke on inflorescence or arrangement of flowers, whether forming a spectacular display of hundreds of blooms to a solitary flower, all illustrated by specimens. **Xan-**

ther magnifica, with dozens of red florets in the form of umbels looked like a globe of fire. The arrangement of spadix and spathe in aroids was also shown.

March, 1953: Members' night, with discussion on spiders, harmless and dangerous.

The Field Day was to Pallarenda.

Library Exchanges

The librarian acknowledges with thanks the following exchanges:—

Botanic Museum and Herbarium, Brisbane.

Entomological Society of Queensland, Brisbane.

Department of Biology, University of Queensland.

Departmental Librarian, University of Queensland.

North Queensland Orchid, Society, Cairns.

Under Secretary, Department of Mines, Brisbane.

Queensland Museum, Brisbane.

Queensland Naturalists' Club, Brisbane.

Queensland Orchid Society, Brisbane.

Royal Society of Queensland, Brisbane.

State Fisheries Division, Brisbane.

Young Naturalist, Texas, Queensland.

Australian Museum, Sydney.

Australian Orchid Review, Sydney.

Australian Photo Review, Sydney.

Geographical Society of N.S.W., Sydney.

N.S.W. Gould League of Bird Lovers, Sydney.

Royal Zoological Society of N.S.W., Sydney.

State Fisheries Department, Sydney.

Linnean Society of N.S.W., Sydney.

Forests Commission of Victoria, Melbourne.

Australian Forests League, Melbourne.

National Museum, Melbourne.

Field Naturalists' Club of Victoria, Melbourne.

Microscopic Society of Victoria, Melbourne.

Queen Victoria Museum, Launceston, Tas.

Tasmanian Naturalists' Club, Hobart.

South Australian Ornithologists' Association, Adelaide.

Naturalists' Section, Royal Society of South Australia, Adelaide.

South Australian Museum, Adelaide.

Zoological Gardens, Adelaide.

Botanic Gardens, Adelaide.

P.A.C. Scientific Journal, Adelaide.

West Australian Naturalists' Club, Perth.

Royal Society of New Zealand, Wellington, N.Z.

New Zealand Geographical Society, Dunedin, N.Z.

Cawthron Institute, Nelson, N.Z.

Sarawak Museum, Kuching, Sarawak.

Department of Zoology, British Museum of Natural History, London.

Riksmuseets, Stockholm, Sweden.

Societe entomologique de Tchechoslovakie, Praha, Czechoslovakia.

American Museum of Natural History, N. York, N.Y., U.S.A.

Library of Congress, Washington, D.C., U.S.A.

Missouri Resources Museum, Jefferson City, Miss., U.S.A.

Reading Public Library, Reading, Pa., U.S.A.

British Empire Naturalists' Association, London.

Toowoomba Naturalists' Club, Toowoomba.

Sunday Australian Printery

The North Queensland Naturalist

The Journal and Magazine of the North Queensland Naturalists' Club
Established 1932

VOL. XXII **Cairns, 1st October, 1953** **No. 106**

On The Death Of A Tree

Through the long years I grew; my branches spanned
The emptiness and silence of the land
Untouched, unspoiled by man's destroying hand.
Winter and summer followed year by year,
As my strength waxed, until I did appear
A Father among trees; while in my shade
I welcomed and refreshed dark men, who paid
Me reverence for all my strength and might—
Those dark men of the ending of the night
Of this land's peace—then came the dawning light
Of conflict and of progress, as that other man, the White,
Awoke this loveliness from its long dreaming night.

So the years passed, and swiftly gathering round
My trunk, with ever spreading branches crowned,
Men came and settled and their homes did raise
Within the ambit of my shade; yet through each phase
I was the centre with my generous foliage,
For I WAS CAIRNS to an admiring age.

But now an end. What was can no more be
To the inheritors of the proud destiny
Of this fair place. Only a memory
Shall be my epitaph in Cairns that is to be.
A little clique of men of mediocrity,
All other means beyond their grasp, now see
In this fell act their immortality—
That they, and they alone, destroyed CAIRNS' TREE.

An Account Of Supposed Mating Of The Taipan, Oxyuranus scutellatus (Peters)

By WILLIAM HOSMER

In the latter part of 1952, I accompanied a friend on a collecting trip to one of the outlying districts of Cairns, N.Q. It was intended to secure specimens of Children's Python, **Liasis childreni** Gray, a small rock python which is quite common in that locality. The subsequent observations, which are the subject of this account, have resulted in some controversy between my friend and me, as to whether the act was copulation, or a combat between two males. So-called "combat dances" in snakes are well known, and have received considerable attention by several

herpetologists in the U.S.A. The most descriptive contribution on Australian snakes in combat in recent years is probably that of Fleay, 1937. In his paper of that year, Fleay states that during combats males entwine tightly like a rope and roll about the ground struggling furiously. Further in his paper, he says that during copulation the male lays on, but does not entwine about the female, the only indication of copulation being spasmodic twitchings of each part of the body from head to tail. The following account differs considerably from Fleay's description of copulation or combat, but nevertheless, I think it is worthy of mention.

On September 20, 1952, we were collecting specimens at a location on the bank of Freshwater Creek, 3 miles south of Redlynch. Adjacent to the creek were several sugar cane properties, and the numerous rock piles along the creek bank are evidently the result of land clearing for the growing of this crop. During the time in which my friend was lifting rocks in search of pythons, I proceeded to another rock pile not far distant. As I approached, I was suddenly startled by a very large taipan which swiftly crossed my intended course. The snake took cover in a clump of grass nearby, after which I called out to my friend for assistance. We quietly approached the retreat, and waited for several minutes in the hope of pin-pointing the snake's position by its movements. During those few minutes of silent readiness, we heard a noise and saw vegetation swaying a few feet distant, which at first looked as though we had disturbed some form of furred animal.

On investigation, we found to our surprise, two taipans of large size, the heads of both were raised some considerable distance above the herbage. They apparently ignored our presence, which gave us a chance to move quite close to them. The pair were entwined, the anterior part of their bodies being raised about three feet above the ground, and both appeared to be unsuccessfully trying to reach higher. There was considerable movement from side to side, also a slight forward movement. The swaying motion of their forebodies was necessary it would seem, to maintain balance. One snake in particular was seen to rub its head along the neck and temporal region of the other, giving the impression of gentle affection between them. Their tongues were protruding in rapid succession. Because of the thick vegetation, which was predominantly **Bryophyllum crenatum**, an introduced plant, it was not possible to detect any undulating movement in the hind quarters. Neither was it possible to see whether they were united in actual copulation. Notwithstanding these imperfections in observation, I feel confident that copulation was in progress, for both snakes appeared to be in a state of nervous excitement.

The action continued for about eight minutes, after which they parted. One disappeared into a crevice in the rocky ground, and the other moved slowly towards me with its head raised about eighteen inches above the ground. The taipan stopped momentarily, the tongue protruding rapidly, as though investigating the human intrusion, then continued.

Discussing our observations later, my colleague was of the opinion that a combat dance between two males was in progress. The large taipan first seen, he assumed to be a female, to which both males were probably attracted, rivalry between them culminating in a "duel." I think that the act was that of copulation, since such obvious affection as was noted could hardly be expected from two males in combat. It is hoped that the information here supplied, together with the observations of other writers, will bring about a more accurate knowledge of the mating habits of our snakes.

June, 1953.

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1950 Aggressive Behavior in Male Sidewinders **Crotalus cerastes,** with a Discussion of Aggressive Behavior and Territoriality in Snakes. Chicago Acad. Sci. Nat. Hist. Misc., No. 66: 1-11.

Green Tree Ants

By KEITH BARRY, Cairns

WINNING ESSAY OF FLECKER NATURAL HISTORY PRIZE FOR 1953

Green tree ants, **Oecophylla virescens,** are common in North Queensland, living in trees, in which they build their nests of leaves. Their nests may also be found in small shrubs and bushes. Their chief food consists of insects.

Like most other ants, the green tree ant has much the same colouring as the places which it inhabits. The head is of a brownish yellow with a slight tint of green, the thorax being a brownish yellow, whilst the abdomen is green, with a slight tint of yellow. The legs, nippers and feelers are a brownish yellow and the eyes are black.

The thorax appears to be in two sections, the front portion being larger than that behind, the part in between being about as narrow as the interval between the head and the thorax. The first pair of legs joins the hinder part of the first section of the thorax. The second and third pairs are joined to the hinder section of the thorax, the second pair being joined to the front of this section and the third pair to the hinder end, the distance between the first and second legs being about twice that between the second and third.

The length of each leg is about a quarter of an inch. The joint between the thorax and the abdomen is very slender. The feelers are situated between the eyes and slightly in front of them.

The nests of the green tree ants consist of green leaves joined together by some white material. They vary in size according to the size and shape of the leaves and the distance between each leaf. The ants leave the nests when the leaves die, probably because the leaves are no longer waterproof.

In our yard at home are three trees close together, but the branches of each in no way touch each other. I noticed a trail of ants going from the mango tree to each of the others at times. These trails lasted about two days. Originally, the ants were only on the mango, but they are now on all three. A clothes line touches one of these trees and I have often seen ants travelling backwards and forwards along it. This clothes line leads to the house, and I have frequently seen them walking on one of the walls, probably seeking food.

One day, after I came home from school, I noticed a green tree ant on my shirt. It probably came from one of the trees at school. I placed it on the clothes line where the other ants were. It stopped there, but did not move. One ant approached it and as it did so it raised its abdomen into the air and ran from the newcomer. About three other ants did the same. Then one approached in front and another behind. Both hesitated for a while. Then the ant behind sprang on to the newcomer and, after a few seconds hesitation, the ant in front did the same. Soon, the two ants and a few others began to carry it off.

One day I struck a nest with a stick, causing a large piece of the nest to fall among three nests of the small brown ants (identity not determined). There were about 50 ants and 20 cocoons on the portion of the dislodged nest. The green tree ants began to carry away some of the cocoons, but they were soon overpowered by the brown ants, which soon began to invade the portion of the nest. I noticed some green tree ants with just the heads of brown ants on their legs. After about twenty minutes, the brown ants had won the battle. Sometimes, when I have opened the nests of green tree ants, I have found dead brown ants inside. I have often seen them around the bases of trees, probably looking for brown ants and other insects. When I kill some green tree ants and leave them on the tree, other ants of the same species will carry them away. It is amazing to note how many ants can fit into a single nest.

When I place my hand about six inches above some green tree ants, they will raise their abdomens into the air and run away from me. If I place my finger close to one, it will raise its head and two front legs and either try to bite or run away. When they bite me, I notice a small pool of liquid at the side of the bite.

Once, I noticed one bite me on the end of my thumb. It curled its abdomen under its thorax to its head, then raised its abdomen into the air, and its hinder legs went with it. Leaving it on my thumb for about a minute, it repeated this process several times.

On another occasion, I had a small stick with a small red coal at the end of it. I passed it over a group of green tree ants. Some of them raised their heads and front pairs of legs into the air and squirted some liquid at the coal. If I placed it close to some of them, they would try to bite the coal. When I slightly burnt one, an ant close to it immediately bit the one I had burnt.

Kookaburras Devouring Snake

By V. C. PRYDE, Magnetic Island

I saw a very interesting, if not unique sight a couple of weeks ago. Kookaburras often make a considerable chatter near my house, but on this occasion their noise was greatly increased. From my back door I could see one of them which at first appeared to have got his head caught in a branch of a tree. On going over to the fence, however, it could be seen that he was hanging on with his bill to one end of a snake about four feet long, the other end being in the mouth of a kookaburra on a branch of the tree. They disputed over the snake for a while, but eventually the bird at the lower end let go (perhaps he had nibbled some of the snake off) and the bird on the bough gradually absorbed the remainder. It took quite ten minutes to get it down its throat, and he must have had a fairly capacious tummy to accommodate it. There were a number of other kookaburras which were responsible for the chatter, including a half-grown one. Perhaps they were referees or partisans of either of the chief actors. Unfortunately, not having a film, I could not take a snap.

Tasmanian Fauna

By GORDON F. LEITCH, Magnetic Island

I have had a long ramble down in Victoria and Tasmania over old beaten tracks and some new ones. In Tasmania, I was surprised the way the Spur Winged Plover had taken over the State. They are everywhere, on the roads, they just dodge the car tyres. In the streets of small towns, in the parks and on the lawns of private gardens they are as tame as poultry.

On the mainland, this bird is far from trusting, but in Tasmania, a State so poor in birds, he should be the national emblem.

In a chat with a party of old bushmen, I got every assurance that the marsupial tiger is still on deck, and an old friend, a most reliable man, informed me he had actually seen one at close quarters in a good light, and this presumed thylacine was not in the rough south-west country, but in that tangle of country between Mount Barron and the north coast.

The Dingo

By K. KENNEDY

(From a paper read by the President, K. Kennedy, at the November, 1952, meeting of the Townsville and District Naturalists' Club).

In response to a request from a gentleman in U. S. America for information about the dingo, received by the Mayor of Townsville and forwarded to this Club, I have compiled the present paper.

The Eastern Australian aboriginal name for the native dog is warrigal and the term dingo originated in a mistake. When the blacks saw the various breeds of the white man's dog they used the word dingo in contempt, and the whites, thinking that dingo meant dog, applied the term to the warrigal. Even scientists were misled, for when the animal was scientifically named it was called **Canis dingo** Meyers.

In different parts of Australia the dingo varies slightly in colour and thickness of hair, but not sufficiently so to warrant separate varieties. There have been discussions as to whether the dingo was brought to Australia by the aborigines or came of its own accord by some means or other. Being a placental mammal, there is no doubt about it being an interloper, for the ancient Australian mammal fauna comprised only marsupials, therefore it had no indigenous ancestors from which to evolve. Certainly the dingo has been in Australia for a long time, for remains of it have been found in caves associated with bones of the Tasmanian Devil (**Sarcophilus harrisii**), an animal extinct on the mainland, and now confined to Tasmania, where it is extremely rare. These caves are situated near Camperdown and Mount Macedon, in Victoria, and at Wellington, in New South Wales, and when first explored contained remains of other extinct carnivores in addition to **Sarcophilus** and the placental dingo.

As no traces of the dingo have been found in Tasmania, it is surmised that it must have

come to Australia after the Bass Strait was formed, and presumably from the north.

Whether the aborigines brought it in or it came unaided is not definitely known, but it is known the aborigines tamed dingoes and made pets of them, whereas if they had reached Australia independently, other placental mammals would have arrived by the same route, and the fauna of Australia would be vastly different from what it is today.

At the present time, the dingo is still prevalent, and in many localities has crossed with the white man's dog, **C. familiaris,** but after a few generations the law of survival of the fittest prevails and the cross reverts to the primitive form. It is said that use of the dingo has been made by crossing it with the domestic dog in the production of the cattle dog, which, apart from its bluish colour, resembles the dingo in size and general appearance. Occasionally, both the pure and the half-bred dingo have been observed in the Townsville district.

(Note by Editor)—The name **Canis dingo** was bestowed upon it by Meyer in 1813, based on a description of the dog of New South Wales by Phillips. However, Iredale recently pointed out that Kerr named it **C. antarcticus** in 1792, so this name has priority to **C. dingo.** Wood-Jones believes that it is only a subspecies of the common dog, **C. familiaris,** and should therefore be known as **C. familiaris dingo.**. Accepting Wood-Jones' status as a subspecies, the existing name should be **C. familiaris antarcticus** (Kerr).

President's Report

OF THE 1952-1953 ACTIVITIES OF THE N.Q.N.C. SEPTEMBER, 1953.

Once again it gives me great pleasure in presenting this Annual Report of the general activities of the Club for the year ending August 11th, 1953.

This September meeting is the first for our new year. Taking things generally, one cannot look back over the past few years' activities with a feeling that the utmost has been done in some of our directions. In others, we have every reason to feel so.

We have not altogether stood still, but I, together with many of our members, feel that it is possible to do more towards making greater progress within the Club, and it is possible, provided we get more active members on the Committe.

On our last Annual Meeting we adopted two alterations to our constitution. One made it possible for a Life Patron to hold an executive office on the Council, and the other was to reduce the quorum of the Council meetings from five to four members, and although we had a full complement of eleven members on the Council, we had the experience in the past of not being able to hold a meeting through the lack of the required number.

Since the alteration this year, the Council has not missed a meeting.

New Members: In the matter of new members this year has been an outstanding success, with a total of 34 new members enrolled. Some of these have been introduced by comparatively new members themselves, which speaks very highly of the interest in that direction.

Our lecturers or speakers during the year have not been numerous, but have been outstanding in quality and interest; Mr. Heath on "Cyclones," Mr. Cantrill on "The First Christmas," Mr. Vlasoff on "Crocodiles,"

Mr. Hitchcock on "Parasites of Army Caterpillars," and Mr. Coleman with a "Microscopic demonstration of Aquatic Life."

The field outings have not been nearly as numerous as one would wish, being only five in number, and that is solely through the lack of an organising secretary.

The outings were one of our activities which I feel has not been taken full advantage of.

In the October meeting we had the pleasure of presenting Miss Maureen Courtney with the H. Flecker Medallion of Natural History, which was earned with a very fine composition on Aboriginal Art. This year's composition was won by Master Keith Barry, and will be presented at our October meeting.

During the year we had a letter from the North Queensland Herpetologist League with a request that the League be affiliated with the N.Q.N.C., and on a show of hands at the following general meeting the League was unanimously affiliated with this Club.

The Club's Annual Christmas Party was held in the Seamen's Rest Rooms in the first week in December, 1952, and was quite a successful gathering.

The Club's No. 8 publication, A Check List of Nth. Qld. Orchids, saleable at 2/6 per copy, was published, and there has been quite a gratifying demand for copies from all parts of Australia.

The time and effort put into this publication, which has been considerable, was carried out by the untiring efforts, as far as this Club is concerned, by Dr. H. Flecker, and he certainly is to be congratulated on those fine efforts; it is really a credit to him.

Next week, the Club will have as our guests and be the guests of, in return, a party of R.A.O.U. members, about 30 in number, who will be in our district for perhaps a few weeks. They paid us the honour of requesting our assistance and advice. This has entailed quite a lot of correspondence and thought, and again we have to thank Dr. H. Flecker for the time and energy he devoted in ensuring that nothing goes wrong with the itinerary of their doings whilst they are with us.

This, then, is my report of the general activities of the Club in the past year, and I would like to take this opportunity of thanking those members who have so generously and untiringly helped in making the business of the Club run as smoothly as it has done, and I feel sure that whoever has the honour of holding my office in the coming year will receive the same wholehearted support as has been accorded me during the year. Once again, I thank you.

Correspondence

Dear Mr. Read,

At a meeting of six men, all of whom are keen students of herpetology, it was decided to pool the efforts of each to do some useful investigation of certain reptiles of which a genus of gecko lizards is urgently in need. Though not wishing to make public the "combination" as a club to which anyone may join, for such would defeat the purpose aimed at, they agreed to form themselves into a league, so that monthly meetings could be arranged to discuss scientific matters pertaining to herpetology. Such league, they desire to be known as the Herpetologists' League of North Queensland, the aim of which is to investigate and review the status of North Queensland species of amphibia, reptiles, saurians and chelonians with a view to clarifying some

of the "jumbles" in nomenclature.

Mr. L. Davies, who is the President, has asked me to inform you of the League's existence, and to ascertain if it can be affiliated with the N.Q. Naturalists' Club, since the League desires to be in close contact with this body, and that the results of their investigation be known to your Club.

Yours, for the President,
William Hosmer.

North Queensland Naturalists' Club

Meets at School of Arts, Shields St., Cairns, on second Tuesday of month, at 8 p.m.

MEETINGS

10th March, 1953: It was decided to co-operate with the Field Naturalists' Club of Victoria to revive their annual Nature Show. Among exhibits were leaf insect, **Extatosoma tiartum,** some fossils from Orange, N.S.W., by Arthur Cantrill, and the giant underground spider, **Selenocosmia crassipes.**

14th April, 1953: Mr. V. Vlasoff, with the assistance of Mr. L. Grigg, projected some technicolour films, at the same time giving a most interesting address on crocodile hunting. A good description of these saurians, their habits, their haunts, etc., were given, as well as of the hunting and methods used in getting crocodile skins, etc. Much information was also given concerning films of underwater life about the reefs near Cairns.

Amongst the exhibits was a yam, **Dioscorea sp.,** with large leaves and tubers growing on the stems above the ground, exhibited by Mr. Ziegenfusz, who also exhibited a two spined spider, **Poecilopachys australasia.**

12th May, 1953: Mr. Deane, a visitor from Caloundra, gave an interesting account of his researches into some tiny beetles.

9th June, 1953: Talk by Mr. H. E. Hitchcock on "Parasites of the Army Worm."

14th July, 1953: Mr. N. C. Coleman gave a demonstration on the use of the microscope in nature study. He used a microscope made by himself, using tube, stands, lenses, etc., procured from various sources, comparatively cheaply. Thus an amateur could assemble a good instrument at a reasonable price. He offered to help members who wished to assemble their own microscopes.

Mr. W. Hosmer wrote announcing the formation of a North Queensland Herpetologists' League the members of which desired to affiliate with the N.Q. Naturalists' Club. This was unanimously agreed to.

11th August, 1953: Much correspondence concerning the lamentable destruction of the Cairns fig tree was read. Arrangements were made for the reception of members of the R.A.O.U., which will visit Cairns during September, 1953.

EXCURSIONS

21st June, 1953: Excursion was made by automobile transport to the junction of the Clohesy and Barron Rivers. A considerable party attended and many interesting features observed.

29th July, 1953: Visit made to Monamona Mission Station and then along the Black Mountain Road. A short side track took the party to the heights on the mountain ridge overlooking the coastal strip south of Yule Point between Whitecliffs and Mowbray. Much of interest was noted.

NEW MEMBERS ELECTED

10th March, 1953: L. J. Robichaux, Dunne St., Cairns, and J. L. Davies, Cairns.

9th June, 1953: Mrs. E. M. Mahony, Proserpine; Mrs. F. H. Allen, Kuala Lumpur, Malaya.

14th July, 1953: Mr. R. S. May, "The Elliott," via Bundaberg; Mr. Bates, Miriam Vale; Mr. N. C. Coleman, Edmonton.

Sunday Australian Printery

The North Queensland Naturalist

The Journal and Magazine of the North Queensland Naturalists' Club
Established 1932

VOL. XXII **Cairns, 1st January, 1954** **No. 107**

Eulophia Carrii C. T. White

By H. FLECKER, F.R.G.S.A.

Eulophia carrii C. T. White

This terrestrial orchid was originally described by C. T. White in his Contributions to the Queensland Flora, No. 5 (Proc. of the R. Soc. of Queensland), and read before the Royal Society of Queensland, 26th August, 1935, from specimens sent to him by T. Carr from Julatten, N.Q. The only note given other than the description is "The present species is easily distinguished from the two previously described leafless species of **Eulophia** by its dark vinous purple flowers."

Neither **Eulophia venosa** Reichb. f. nor **E. fitzalani** F. Muell. are common, the former being occasionally found in the coastal rain forest as at Cape Tribulation and Yarrabah, and the latter has been found at Mount Dryander in the Proserpine District.

A communication from T. Carr, dated 5.1.1952 records that it flowered for Mr. Taylor, Orchid

Importer, Sydney, many years ago. Mr. Carr had it flowering freely each year at Rumula and at one time it was plentiful around this area. It does best in rotting wood. What appeared to be the healthiest plants are found in decaying Northern Silky Oak, **Cardwellia sublimis.** He had never seen it growing outside of a very small area of about one square mile around Rumula. The area has now been completely cleared and grassed or cultivated.

For some fourteen years or so, which had elapsed since the original description, nobody appears to have collected a second sample until 1951 when J. A. Kenyon, of Cairns, brought in a specimen with brown flowers, 23 inches in height, without any leaves, growing in red soil at North Johnstone about a mile south of Lake Eacham, far removed from the Julatten and Rumula area. H. M. R. Rupp reports that it is doubtless the same orchid according to White's description and probably larger than Carr's specimen, for the measurements of the floral segments somewhat exceed those given by him. Otherwise, the floral structure agrees perfectly with White's description.

Later, some bulbs of this orchid from the North Johnstone area were secured by J. A. Kenyon and planted in the ground in the fernery beneath the front verandah at Digger Street, North Cairns. During Christmas week, 1951, it shot up a big spike, as illustrated above, about two feet high, containing 17 brownish coloured florets. The plant has not re-appeared in succeeding years.

Report On The "Min Min" Light

By G. B. M. TERRIS, Cairns

The light, which was white, attained a brilliance exceeding by some 200 per cent. any of the planetary bodies observed at the time. The brilliance was not constant and at times when it appeared to fade a little a bright red flash formed part of it. The light moved in irregular circles and spirals though sometimes straight upwards to an estimated 1000 feet and then downwards almost to the ground. The phenomenon was observed for ten minutes and was last seen disappearing into the ground. The light, when first seen, was thought to come from an aircraft, but its motion was faster than an airliner could manoeuvre.

Location: From a point 70 miles west of Camooweal, between Avon Downs and Soudan, Barkly Tableland, Northern Territory, the light was observed at a bearing N.N.E. approximately half a mile distant.

Type of Country: Heavily grassed (Mitchell and Flinders) black soil plains. Trees sparse.

Time: Tuesday, 5th May, 1953, at 11 p.m.

Weather: Cloudless sky; moon, last quarter;, wind, light westerly; temperature approximately 60 degrees F.

The Name: The light is known quite well locally as the "Min Min" light. Extensive enquiries were made but not one person approached had actually seen the light. The fact that such a light did appear at rare intervals was, however, generally accepted. Natives at Mataranka, on the edge of the Arnhem Land Reservation, could offer no solution, would not confirm its existence, nor would they interpret the name "Min Min."

It is alleged that a party of scientists once camped on the Barkly Tableland to investigate the light, but during their stay it was not observed. It was also stated that men had chased the light across the plain on horseback, but the light always seem-

ed to be the same distance ahead of them.

Witnesses: H. J. Bell, 274 Draper Street, Cairns; G. B. W. Terris, 2 Thomas Street, Cairns.

Reports of the Min Min light have been made before, but no satisfactory explanation appears to have been given. Occasionally, spontaneous combustion of methane, etc., had given rise to short lived lights, and as there are many bores in the district, this seems a possibility.

NOTE BY EDITOR

In a recent lecture by Professor Prentice, electrical engineer, on the protection of industrial equipment against lightning, which was actually a report of research being carried out in his department, he showed that there were definite storm tracks, the reasons for which were at present unknown. The greater number of reports of ball lightning, fire balls, etc., can be dismissed, but there are a few accounts by accredited observers which as yet have not been explained by any ordinary means. Professor Prentice suggested that if there is anything in the ball lightning idea, then it could be possible that an intense and concentrated ionization field formed at the junction of the cloud to earth and ground to cloud ionised paths of a pre-lightning flash. Now if this Min Min Light area is one of these storm tracks, this might be an explanation on some of these times, but from the above record, this is doubted.

It is desired to learn whether there are good records of lightning to earth flashes in the area of the Min Min Lights.

Vale Aborigines Of The Bunya

By RHYS

I cannot say this is unexpected, have I not often wondered why amongst death I have been spared so long. Was it because in my battle with the elements I was partly crippled, my fight with those forces made doubly hard by the loss of good company, once at hand on every side?

In days gone by, the blacks from the River country would visit these parts every Bunya nut season. I was only a stripling then.

How their piccaninnies laughed when they found a nut cone on the ground. The young men climbed the trees, tumbling cones down for the gins to gather.

From here the men would scan the low country to the east of the Range, where a hostile tribe roamed. Strange these seaside blacks seldom ventured to the top, or the mountain blacks to the low country. The steep range side was as a no-man's land.

From my point of vantage might be seen the ocean to the east, and the far flung ranges to the west, and from here the old blacks watched the coming of the white man.

With their beetling brows contracted, they watched him leave the coast, venture to the foothills, climb the spurs, reaching the top. Finding this to their liking, these pale faces soon appeared in numbers, and in no time were devastating the land. Denuding it of the forest, they made great scars on the earth, on which to plant their puny trees, where once hoary giants reigned supreme.

They came with their animals, strange to this country, long the habitat of the wallaby, bandicoot and dingo. Then came their wheeled vehicles, hitched to their animals.

Here where the blacks were happy in their gunyas or with none, these whites built themselves great mia-mias, and where

piccaninnies were wont to play, now the white children ran.

Now as the murderer approaches, axe in hand, I know my hour is come, and I will go to join my forebears who, by the grace of God, lived in this land through the ages, before the white plague called civilisation.

And so a storm wrecked Gum Tree passes. Vale.

Preservation Of Reptiles

By WILLIAM HOSMER

The general interest in snakes has been gradually increasing since the recent publicity given to Australia's deadliest snake, the taipan. Specimens, living and dead, come from many localities in the north for positive identification. Unfortunately, many of the specimens are badly preserved, and consequently have to be discarded instead of being retained in the ever growing museum collection. Quite recently a python, four feet long, was coiled tightly into a coffee jar and covered with methylated spirits, then transported many miles before reaching Cairns. If the sender of that python had been at the receiving end, I am sure that he would appreciate a few hints on the correct procedure for permanent preservation. The following method will be found most satisfactory. Although a little more complicated than the procedure above, if the specimen is worth the trouble of preservation and shipment at all, then it is worth the care necessary for permanent storage as a museum specimen.

Specimens are best killed by drowning them in the preserving fluid, keeping them submerged in a cloth bag, or by injecting a little preservative in the region of the heart with a hypodermic syringe. Other methods not known to me are probably as effective, or even more so, but whichever form is used, take care not to damage the specimen, particularly the head, as damaged specimens are difficult to check.

After killing the specimen, it is essential to inject preservative into the belly, starting from the tail and gradually working up the body to the neck, when fluid begins to run from the mouth, indicating that sufficient preservative has been injected. Should a syringe not be available for this purpose, a number of small slits may be made with a razor blade to ensure entry of the preservative into the body cavity. These slits should be made transversely to the belly scales, and should be about half as long as the interspaces between each, but take note that one or two slits are also necessary in the tail of any specimen exceeding two feet in length. Having completed this portion of the operation, place the specimen UPSIDE DOWN in a tray or dish of adequate space and cover with the preserving fluid. Force out as much air as possible by running the fingers along the belly pressing down from the tail end first. It should be noted that air pockets in the stomach are the chief cause of decomposition in preserved specimens, hence the removal of air is of prime importance. This having been thoroughly accomplished, arrange the specimen (still belly side up), in a suitabe position, and allow to remain for a few hours. When re-examined, the specimen should be partly set, or stiffened.

The next procedure is to decide on a suitable container. A wide-mouthed jar or bottle will be found best; a fruit preserving bottle or pickle jar is ideal. The specimen should be carefully placed within so that there is no pressure of the body on the glass, and there should be an

amount of preservative sufficient in proportion to the bulk of the specimen.

Next comes the most important part of the whole operation, so important indeed, that without it, the specimen loses its value. This is the "tagging" or labelling of the specimen. The rarest specimen in the State is of little value from a scientific aspect if unaccompanied by the necessary data. This very simple matter is often omitted. The necessary data required is:—

1. Locality in which the specimen was collected, which may be rendered for instance as 2 miles north of Hartley Creek, or 3 miles west of Smithfield Post Office, etc.

2. Date of collection, and if space permits, time of day when such was collected.

3. Collector's name, all of which should be written in ordinary pencil on card or piece of paper with other particulars and placed INSIDE the container. Outside labels are quite frequently lost, torn or damaged, and may become illegible. If two or more specimens are included in the one container attach the label to each specimen by threading cotton through one of the belly scales and tying label securely.

Regarding the type of preservative to use, the most common and easiest to procure is methylated spirit. Ethyl or grain alcohol is the preservative mostly used by museums for permanent storage, but the high cost of this fluid places it out of the reach of most private collectors. Formalin is very economical since it should be broken down to 1 part formalin to 8 or 9 parts of water for most specimens. The chief disadvantages of formalin are that it hardens the specimen, thus making examination difficult, whilst it causes the eyes of the person making the examination to run and smart. The heads, or rather the head and two or three inches of neck are best preserved in cases where the specimen is too bulky for preservation of the whole body.

Once well preserved, the spirit may be emptied out of the container, and spirit moistened rag or absorbent cotton packed around the specimen for transporting purposes. Any collector wishing to have specimens identified should forward them to Dr. H. Flecker, 52 Abbott Street, Cairns, or to me at 2 McLeod St., Cairns North.

Length Of Python

By S. DEAN, Cairns

Having received the loan of a book dealing with Australian Reptiles by Charles Barrett, I was interested in the chapter dealing with pythons and their reputed lengths and noted, according to measurements, that our North Queensland Rock Python, **Liasis amethystinus**, is rated fourth in length of this family. This has prompted me to recount an experience which might interest readers.

Although not a student of herpetology, I have had close contact with quite a wide variety of snakes during my thirty years' residence in Far North Queensland, working in the bush and in the cane fields. Some time ago, when the Barron Falls hydro-electric scheme was under construction, and in connection with which I was employed, I had acquired some reputation in the treatment and preservation of snake skins. In fact, about that time I had presented a beautifully coloured and marked skin to the then Secretary of the R.S.S.A.I.L.A., Mr. F. Mazlin. Returning to the job on the

"midnight horror," which train arrived at Bradshaw's siding about 3 a.m., Monday, after a week-end spent in Cairns, I was informed en route by a fellow workman that there was a python awaiting me at the Falls, which had been captured on the previous Saturday morning. Despite my own different estimate, he maintained that its length was fully twenty-four feet.

Up to that time, I had many experiences with **Liasis amethystinus,** but the longest I had encountered hitherto was twenty to twenty-one feet. A modest bet of five shillings was made. Before breakfast, with a borrowed surveyor's tape, we visited the python, which was draped over the ridge pole of a vacant tent site, and despite its odour, stretched it out to its full length, and it was found to measure twenty-three feet eight and a half inches, and as it was only three and a half inches short of his claim, we split the bet and I parted with two shillings and six pence, but owing to its decomposition and the very rough and scaling condition of its skin, having been carried over very rough terrain, with a shovel it was consigned to earth. I cannot say whether this is a record, but it is the largest of which I am acquainted.

Herpetologists' League Of North Queensland

Monthly meetings are held on the First Monday in each month at "Coraline," 57 Grove St., Cairns. The officers are:

President: William Hosmer.
Hon. Treas.: Alfred A. Read.
Hon. Sec.: J. McLoughlin.

Elevated Kitchen Middens Of Konkandji People

By H. FLECKER, F.R.G.S.A.

Douglas Seaton has described in a short article entitled Rock Paintings of the Konkandji People (N.Q. Naturalist, No. 101, June, 1952, p.19), two collections of rock paintings in Brown Bay. The floors of both were evidently kitchen middens and abundant remains are still present to testify to this fact. One of them, however, is situated in the rain forest fully three hundred feet above sea level, necessitating a considerable climb from the beach. Most of the remains consist of discarded marine shell remains, particularly window shell (**Placuanome**), other oysters, mussels, **Venerupis** and other bivalves as well as many gasteropods such as **Natica, Nerita, Cerithium, Turbo** and the like, all collected from the sea. A few nuts were present and were recognised as the shells of the fruit of **Cycas media,** a quandong, **Elaeocarpus bancroftii** and the small, hard wooden seeds of a small rosy fruit, undetermined, resembling somewhat a rather large red currant in appearance.

Although kitchen middens are plentiful enough somewhat above sea level, I am unaware that any such containing predominantly marine material have been found at a considerable elevation and can offer no theory as to why the Konkandji people should have carried their sea food to such a height instead of consuming them on the beach or some shelter nearby. Possibly, it was the only available shelter from the teeming rain during the wet season.

North Queensland Naturalists' Club

Meets at School of Arts, Shields St., Cairns, usually on Second Tuesday of month, at 8 p.m.

MEETINGS

8th September, 1953: Annual General Meeting. Annual report read by retiring President, Mr. A. A. Read, was adopted. Election of officers resulted: President, Mr. A. A. Read; Hon. Sec., J. Wyer; Hon. Assist. Sec. and Librarian, D. R. Peiniger; Organising Sec. for outings, W. Hosmer; Vice-Presidents, Dr. H. Flecker, A. B. Cummings, G. Atkinson; Hon. Treas., Mrs. Saunders; Additional Members of Committee, Mrs. A. Read, C. Cantrill, Mrs. H. Smith, Constable Ziegenfusz, J. McLoughlin, L. J. Robichaux.

13th October, 1953: Agreed to send two representatives to the monthly meetings of the New Settlers' League. Flecker Natural History Medallion presented to Keith Barry for observations on Green Tree Ants.

10th November, 1953: Mr. J. H. Pateman gave an enjoyable talk on "Eye Aids to Study," showing the value of microscopes in creating more exact knowledge, more interest and thus revealing new worlds.

8th December, 1953: Mr. St. Cloud gave a talk on his experience of growing **Dendrobium elobatum,** which showed in the first flowering a uniform kind of flower; in the second flowering, a different type; and in the third, a mixture of both.

Visit of members of R.A.O.U.

17th September. A conversazione was arranged at the residence of Mr. and Mrs. A. A. Read, and the visitors were shown over the great private collection of the President and Mrs. Read. The function was very enjoyable.

18th September: The members of the R.A.O.U. exhibited coloured slides of their outings in Central Australia, including Ayre Rock and other notable spots.

EXCURSIONS

8th October: Davies Creek and Tinaroo Range. A taipan was captured alive but died from injuries produced thereby. The rooting system of the giant orchid **Galeola** was particularly noted.

8th November, 1953: Cairns Intake and Visit to Crystal Waters.

6th December: Pebbly Beach on Cook Highway was well attended.

10th January: Brown Bay. Visits made to aboriginal paintings and kitchen middens there proved especially interesting. Why did aboriginals carry marine shells 300 feet above sea level into rain forest?

NEW MEMBERS ELECTED

11th August: N. C. Coleman, Pyne St., Edmonton; E. Markham, Box 110, Cairns.

8th September: Miss Birgit Nilsson, Redlynch; Mrs. T. Burkitt, 91 Grafton St., Cairns.

13th October: M. J. Lloyd, 36 Bellerine St., Geelong, V.; G. L. Burch, 2 Hermitage Rd., Geelong, V.; A. Davis, 5 Loeven St., Cairns; A. Christiansen, 203 Buchan St., Cairns; K. I. Barry (junior member), 405 Draper St., Cairns; R. J. Horrell, 2 Mackenzie St., Cairns; J. Prince, 2 Mackenzie St., Cairns; Mrs. J. Prince, 2 Mackenzie St., Cairns; H. C. Wickett, 181 Sheridan St., Cairns; L. MacDonald, Bank of N.S.W., Cairns.

10th November, 1953: K. A. McPherson, Box 51, Proserpine; J. H. Pateman, Mill Rd., Edmonton; F. E. Gunther, Main Highway, Edmonton.

The Townsville And District Naturalists' Club.

The Townsville and District Naturalists' Club meets on the first Friday of the month in the Adult Education Centre Lecture Rooms, Wickham Street, Townsville. President, Mr. K. Kennedy, Esplanade and Rose Street, Kissing Point. Hon. Secretary, Elizabeth Kennedy, Townsville.

MEETINGS AND FIELD DAYS

May, 1953: The meeting took the form of a members' night. Miss Nancy Hopkins spoke on her recent visit to the Mt. Spec rain forest and described the birds observed on that day. For the botanical section of the meeting Mr. Kennedy exhibited and described a North Queensland fern **(Polypodium Brownii)** and showed a new method of making fern baskets.

The field day was to be a members' field day.

June, 1953: The lecture was given by Mr. K. Kennedy, who spoke on the ferns of Mt. Spec, saying that North Queensland was as remarkable for its fern vegetation as Tasmania and New Zealand, and that the Mt. Spec district had its fair share of **Pteridophytes.** The speaker described some of the ferns he had observed there. He described the giant **Angiopteris evecta** and species of tree ferns **(Cyathea)** down to the fragile, filmy ferns of the dark ravines. Pictures of ferns were thrown on to the screen and a number of hanging baskets were displayed and their peculiarities pointed out.

Field day was to Pallarenda.

July, 1953: The **Hymenophyllaceae** lecture was given by Mr. G. J. Tofler, the subject of his talk was "Over the Bogong High Plains in Summer Time." The plateau of Mt. Bogong is in the Victorian Alps, and the speaker told of a hiking trip through this region. He explained the geological formation of the mountain and surrounding country, and many things of natural history interest, also the ways of reaching the mountain. A number of photographs taken by the lecturer illustrated this very interesting talk.

Field day to the Gorge (Pallarenda).

August, 1953: The meeting took the form of a discussion on World Bird Day. The object of the district lists movement, which has its headquarters in Melbourne, is to ascertain as far as possible the distribution of bird life in Australia at a given time, so as to obtain data of relative abundance and migration. The time allotted for this year was between 16th and 30th August. During the meeting, several members spoke of bird life generally and arranged amongst themselves to make reports from various parts of the Townsville district, the results of which would be read at the next meeting of the Club.

The field day was to Kissing Point, Mt. St. John Zoo, and the Town Common.

September, 1953: The meeting being the annual general meeting, the election of officers and general business was the order of the night. As there were no nominations, the retiring Committee was re-elected to hold office for the coming year. The President read his report on the activities of the Club during the year, then the evening was given over to the reading of bird lists compiled by members on World Bird Day, prior to them being despatched to Melbourne.

Field day to the Town Common.

October, 1953: The lecturer was Mr. C. Bryant, Editor of the magazine "Emu." He spoke on the recent R.A.O.U. camp at Lake Barrine, and of the birds he had observed there and at Dunk Island, and also about the formation and distribution of flesh on birds that fly and those that have been flightless for ages.

Mr. Bryant also described a beautiful collection of transparencies, which were thrown on to the screen, of Central Australia. These transparencies were taken by Mr. Bryant and by Mrs. Bryant at the last bird camp of the R.A.O.U.

Sunday Australian Printery

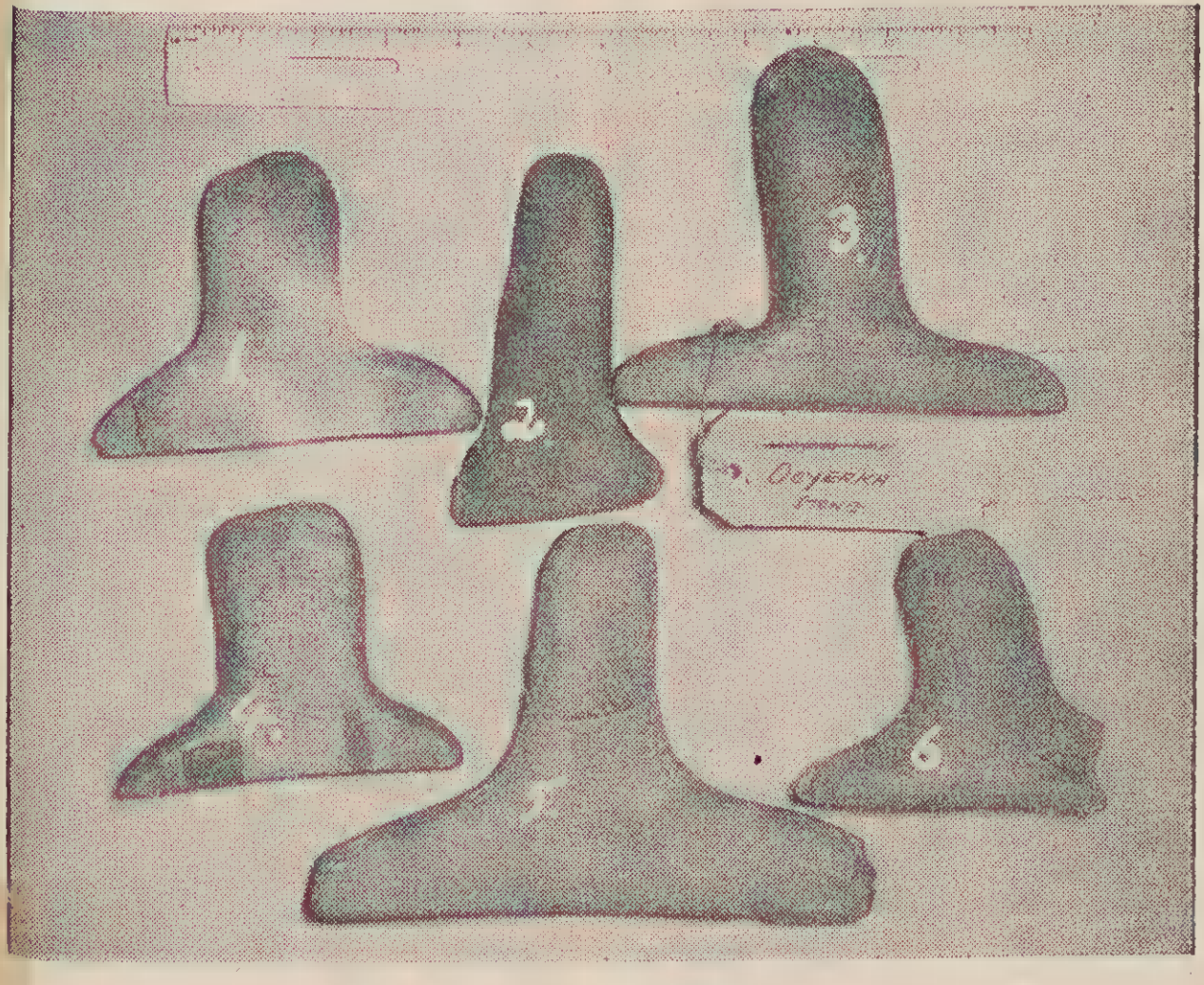
The North Queensland Naturalist

The Journal and Magazine of the North Queensland Naturalists' Club
Established 1932

VOL. XXII | **Cairns, 1st May, 1954** | **No. 108**

Ooyurkas

By H. FLECKER, F.R.G.S.A.



OOYURKAS
Photo. By Chargois Studios, Cairns
For identity of stones, see text

So far, descriptions of eleven **ooyurkas** have been given by D. A. Casey, F. D. McCarthy, K. Kennedy and G. Mack, which may be summarised in order of their description as follows.

CASEY—

1. National Mus., Melb., dense metamorphic rock, heavily patinated, from Mena Creek, G. Kemlin.
2. National Mus., Melb., fine grained schist, slightly patinated, from Mena Creek, G. Kemlin.
3. Australian Mus., Sydney, schist, heavily patinated, from near Cairns.
4. Q. Mus., Bris., probably basalt, from Johnstone R., Innisfail, H. Tryon, 2.12.1897.

McCARTHY—

5. Australian Mus., Syd., fine grained slate, polished all over, from Mena Creek, G. Kimlin.
6. Australian Mus., Syd., igneous stone, surface patinated, hammer dressed and polished, from Mena Creek, G. Kimlin.

7. Australian Mus., Syd., slate, ground on coarse stone, from Russell River, purchased 1892.

KENNEDY—

8. Personal collection, Townsville, iron stained igneous rock, from Miriwinni, C. Freeman.

9. Collection, J. Popham, Townsville, heavy igneous rock, from Herbert River District, S. Fowler.

MACK—

10. Q. Mus., Bris., from Midgenoo, A. B. Skardon, 7.4.1936.

11. Q. Mus., Brisbane, highly metamorphosed volcanic rock, polished and striated, Pawngilly, C. E. Mittelheuser, 31.10.1945.

To the above, seven more are here added and illustrated by photographs. These are:—

12. (No. 1 in photograph, No. 3930 in collection of N. Q. Naturalists' Club). It was collected on the Quamba Estate, Bartle Frere, by Mr. Roy Armstrong, and brought in 17.11.1953. Like all other **ooyurkas** this is of very hard stone, apparently schist. It is damaged to some extent on one of its arms, and also at the extremity of the tang to a lesser degree, the tang being almost perpendicular to the base. The smooth ground edge is almost flat, not bevelled, and except at the extremities, of a uniform thickness. The tang, 45 mm. wide, is much broader than usual, and like the shoulders and summit is uniformly rounded, the shoulder at the base on the damaged side being rather more sloping than on the other side. It measures 131 mm. in length, 101 mm. in height, and weighs 14½ oz.

13. (No. 2 in photograph), is in the possession of Mr. Douglas Seaton, of Cairns, and obtained from the Miriwinni area. It measures 74 mm. in length, 127 in height and 10 mm. in thickness, and weighs only 5½ oz., and is therefore the smallest of the series. Although possessing a high tang, the shoulders are very poorly developed, especially upon one side. Though well rounded upon one side and at the summit of the tang, the other side is poorly finished off.

14. (No. 3 in photograph), is also in the possession of Mr. Douglas Seaton, of Cairns, coming from the same Miriwinni area. It is 160 mm. in length 123 mm. high, and 23 mm. broad, and weighs 15½ oz. The base forms a perfectly straight line, the two shoulders are somewhat symmetrical, but the upright tang has a considerable list to one side. It is smooth and well finished, all borders except the base being evenly rounded off.

15. (No. 4 in photograph), is in the possession of the N.Q. Naturalists' Club and was collected by Mr. Arthur Locke at the Kawadgie Gold Field on the Russell River. Its base forms a very slight concavity and measures 119 mm. in length, and is formed of very hard rock, apparently slate. The shoulders are nearly symmetrical, one being rather longer and more sloping than the other. The tang, however, is much broader than usual, 46 mm., and almost perpendicular to the base, attaining a height of 95 mm. While one side of the tang is almost straight, the other is somewhat convex, the convexity being mostly near the summit of the tang. The stone is fairly well finished with rounded borders, except for the smooth base.

16. (No. 5 of photo), No. 273 of the N.Q. Naturalists' Club collection, is made of hard stone, apparently slate, and is quite the largest of the whole series. Its base is distinctly, but slightly concave and shows scratches from shoulder to shoulder and from front to back, measuring 193 mm. in length, and the tang 133 mm. high, both measurements exceeding all the others, but its thickness is only 16 mm. Its weight is 18 oz., and is the heaviest recorded. The summit of the tang has a feature not noted in any of the other specimens in that it is bevelled both in front and behind presenting a distinct though not sharp straight edge, probably used like a chisel. The tang is almost perpendicular to the base and all other edges except the

summit of the tang and base are rounded, but this is somewhat roughly done. The shoulders are nearly equal, but one slopes much more than the other.

17. (No. 6 of photo), is in the possession of the N.Q. Naturalists' Club, was collected by Mr. Tom Carr at the Kawadgie Gold Field on the Russell River. It is of hard stone, apparently schist, but has much of one shoulder broken off and is also somewhat damaged at the apex of the tang. The smooth base is not all in the same plane, thus differing from other specimens, and part of one edge is somewhat rounded. The tang is not only listed towards the unbroken side, but also has a slight curvature to that side. While the broken surface of the shoulder shows a heavier build, the unbroken shoulder is very sloping. All the remaining borders are rounded, and as a whole, the stone is either poorly finished or has been much weathered. Measurements are 105 mm. long, 94 mm. high, weighing altogether 10¾ oz. Its thickness exceeds that of the others by a great deal, measuring 29 mm.

18. This was ploughed up about 1944 on Red Acres Farm, Bartle Frere, in red alluvial soil, and is in the possession of Mr. T. J. Trembath. The stone appears to be schist, weighing 11½ oz. The base is 163 mm. in length, the smooth surface having a very slight concavity. The shoulders are nearly symmetrical, one being slightly more rounded than the other. The height is 101 mm., with the tang almost perpendicular. The summit of the tang and one of the shoulders is a little damaged. The thickness of the tool is 17 mm. On the whole, the implement is not as well finished as many of the above.

19. This has been presented to the collection at the University of Queensland at St. Lucia, by Mr. D. Seaton, who obtained it from Miriwinni. At the moment, it is not available for photograph or description, but the measurements kindly supplied by Dr. L. P. Winterbotham are: "length of handle" 6 inches (152 mm.), and "length across the face" 5¼ inches (132 mm.).

NAME.—The name **ooyurka** is applied to this stone, and is the name as used by the aboriginals as noted by Casey. The name **mena** has been applied by McCarthy, and this is properly rejected by Kennedy on the following grounds:—

(a) Priority. **Ooyurka** is specially mentioned by Casey, and the specimen, presented to the Queensland Museum in 1897, is labelled Whetstone, aboriginal name, **ooyurka.**

(b) **Mena** is an Egyptian name used to commemorate a large military camp near Cairo in 1914-15. The aboriginal name is much to be preferred.

(c) The name **mena** is already pre-occupied in archaeological nomenclature as being the name of a kind of chess played by ancient Egyptians.

Mr. F. D. McCarthy in a recent letter now acknowledges the unsuitability of the name **mena.**

MATERIAL.—This is invariably of hard stone, variously described in different specimens as dense metamorphic rock, fine grained schist, probably basalt, igneous stone, slate. However, the exact geological nature of some of the specimens is not accurately determined.

FORM.—All specimens are made from flat stone, the front and back surfaces being quite flat and fairly smooth. All without exception have a polished base. These stones can best be described as having an upright tang, and two shoulders, one on each side. These are symmetrically placed, the degree of symmetry varying much in different specimens. There is, however, nothing to indicate which is the front or back, and which is the right or left. There is much variation and no two stones are alike. The smallest, No. 13, weighs 5½ oz., and the largest No. 16, 18 oz.

However, No. 7 does not at all correspond to the above description, and it is doubtful whether it should be included. It is figured by McCarthy and is triangular in shape, the base being

depicted above. Each angle would then correspond to a shoulder, and there is no mention of a polished surface so typical of other specimens. Moreover, it is stated that there is no tang. Perhaps the broken end might be regarded as a tang if compared with other specimens. The following descriptions exclude this particular aberrant specimen.

POLISHED BASE.—This is the most characteristic feature of the stone, being present in all cases. The surface is quite smooth, and in some cases it is very difficult to discern any scratches even upon magnification. However, in others, such as No. 16, these are more easily recognised, some running longitudinally from shoulder to shoulder and others directly from front to back, occasionally in both directions upon the same specimen. Sometimes, the surface is almost flat, as in Nos. 12 and 14, in others, a distinct concavity as in Nos. 15 and 16. In thickness it varies from 10 mm. in No. 13 to 29 mm. in No. 17. The polished surfaces are rounded or oval at the extremities of the shoulders but straight in front and behind, with edges fairly sharp or only very slightly rounded or bevelled. The base of No. 17, although polished, is in a somewhat irregular plane.

SHOULDERS.— These are somewhat symmetrical in some cases as in No. 14, but in others, notably Nos. 15 and 16, slopes more on one side than upon the other. However, like the tang, its edges, except at the base, are fairly evenly rounded. In No. 13, the shoulders are very poorly developed.

TANG.—In some cases, the tang is perpendicular or almost so, to the base, as in Nos. 12, 15 and 16, whilst in others it has a distinct list to one side as in Nos. 14 and 17. The last has likewise a slight curvature. In breadth, the tang varies greatly, that of No. 15 being the broadest of the series. The borders are continuous with those of the shoulders and are rounded. Whilst the summits of some of the tangs form an arc of a circle, as in Nos. 13 and 14, others like No. 15, are straight. No. 16 differs from all others in having the summit bevelled with a straight top edge in the form of a chisel.

WORKMANSHIP AND FINISH.—The workmanship and finish are variously described as hammer dressed and ground (Casey), the standard of No. 1 being remarkably high, and 2 and 3 not so well finished. McCarthy regards No. 5 as carefully shaped, and 6 a crudely made example with patches of both hammer dressing and polishing with the surface patinated. No. 11 appears to be the only specimen showing evidence of flaking, which is noted particularly at the concavities between the shoulders and the tang. In practically all cases, except at the base, the edges are fairly evenly rounded from front to back. To sum up, the quality of the work varies considerably.

USE.—Apparently, the only published record of a witness of the use of such implements appears to have been Mr. C. Freeman, who reports having seen an aboriginal use an instrument similar to these for smoothing the handle which he was fitting to an axe head. The appearance of the whole stone supports this idea, the smooth base being used for smoothing and the tang as a handle. The markings on the base of No. 16 suggests that the instrument was moved in both directions, that is, from side to side as well as from before backwards and vice versa. These tools evidently assisted in smoothing the hard wood artifacts fashioned in this area. The locality in which the stones were all found, originally all heavily timbered country, lends support to the use as mentioned above.

LOCATION OF FINDS.—Almost all the stones appear to have been found in clay soil, when the country was being cleared for cultivation for growing sugar. The plough has brought up most. No. 8 was found when digging a hole for fencing. Possibly, the tools were placed in position near trees

from which wooden implements were being fashioned, and the former were then lost or abandoned, and became buried beneath leaves and subsequently mud and clay before being found by early settlers after clearing operations were completed.

GEOGRAPHICAL DISTRIBUTION.—No. 3 is described as from near Cairns, but this is very vague for no other specimen is found within forty miles of Cairns. The majority come from the fertile valley between the Graham Range on the coast and the Bellenden Ker and Bartle Frere Ranges (of which the summits are the highest in Queensland, being over 5000 feet), west of these. Here the land is fairly low, not much above sea level, and occupied mostly by the Wanjuru tribe of aboriginals.

Thus Nos. 7, 15 and 17 are from the Russell River, 8, 13, 14 and 19 from Miriwinni, 11 from Pawngilly, and 12 and 18 from Bartle Frere. In the Innisfail area, formerly inhabited by the Ma: Mu Tribe, comes No. 4 from the Johnstone River, and 1, 2, 5 and 6 all collected by Mr. G. Kemlin (Casey) or G. Kimlin (McCarthy) at Mena Creek. A little further on, No. 10 was collected at Midgenoo, in the region occupied by the Djiru Tribe, but No. 9, from the Herbert River District is as vague as the Cairns area, being at least fifty miles south of all the others. To sum up, the range is most simply stated as being the narrow belt or valleys between the Russell River and Midgenoo, the latter being a little north of Tully. The tribes manufacturing these implements appear to be the Wanjuru, the Ma:Mu and the Djiru.

COLLECTIONS.—Of the above, Nos. 1 and 2 are in the National Museum, Melbourne, 3, 5, 6 and 7 in the Australian Museum, Sydney, 4, 10 and 11 in the Queensland Museum, Brisbane, 12, 15, 16 and 17 in the collection of the N. Q. Naturalists' Club, Cairns, 13 and 14 in the private collection of D. Seaton, Cairns, 8 in that of K. Kennedy. of Townsville, and 9 of J. Popham, also of Townsville, 13 in that of T. J. Trembath, of Bartle Frere, and 19 in the collection of the University of Queensland.

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Breeding Of The Australian Pratincole

By NANCY HOPKINS

The Australian Pratincole or Swallow Plover (**Stiltia isabella**), a migrant from the islands to the north, visits the Townsville Town Common each summer, except when early rains have already made it marshy. The pratincole is a bird of the dry plains, and the Common is usually dry at the time of its arrival, in August or September. Its departure seems to be governed by the rains, which would cause it to retreat to drier areas.

The bird is not readily observed against its normal brownish background, but it is far from drab. Its attractive colouring, largely pale rufous with a deep chestnut band across the abdomen, and its graceful form and movements, make it one of our loveliest birds.

In a note in this magazine

(1st June, 1949), I told of the breeding of a pair of Pratincoles on the Common in 1938. It can be assumed that they breed where they spend the summer, in common with all birds which come to us from a warmer climate, but as they tend to patronise "dry-bog" areas, where an unobtrusive approach is impossible, it is not easy to locate their eggs and young. In 1952, the birds, though often seen, did not appear to settle in the more accessible places, but a pair of chicks was seen in December, after light rains which had probably had the effect of bringing the nesting birds nearer to the road.

This summer, the Pratincoles were unusually plentiful, many near the roads, where a car could be driven much closer to them than a pedestrian could approach. Here, on the 30th September, we surprised a very young pair of chicks, and not far away, the actions of other parents led to the discovery of a newly-hatched chick and an egg, laid on the ground beside a patch of horse dung.

Next day, when I brought a group of visiting R.A.O.U. members to the spot, the egg had hatched, and both chicks were much photographed, while the parents kept up a rather heart-rending distraction display. The first pair of chicks were not seen, but the parents were standing by.

During the next two weeks, all attempts to locate the young birds failed. The presumable parents were present and obviously agitated, but the chicks were well hidden. On the 18th October, a pair of immature birds, which might easily have passed for adults, were seen in the same locality, still guarded by the parents. If they were two of the original chicks they were only three weeks old, but this agrees with my observations on the 1938 bird, which appeared full-grown and flew well at about three weeks. At this stage they were duller than the parents, but in general, the colouring was similar.

By the end of the year, after rain, all pratincoles seemed to have left the Common, so I was surprised to see one on the road as late as the 1st February, when most of the Common was a marsh. Investigation revealed a family group occupying one of the few dry, bare patches of land, apparently a case of late breeding. The young were probably three or four weeks old.

To sum up, it seems safe to conclude that the Common is a regular breeding ground, except in years of early rains, breeding normally being completed before the wet season.

Additions To The North Queensland Bird List

By NANCY HOPKINS

In addition to the birds listed by the North Queensland Naturalists' Club in its 1949 publication, the following have been recorded:

Order Ralliformes: Family Rallidae. Blacktailed Native Hen, **Tribonyx ventralis.** One bird was seen at Mt. St. John, Townsville, in April, 1951, when bird life was prolific after a wet year.

Order Podiciformes: Family Podicipidae. Great Crested Grebe, **Podiceps cristatus.** During the R.A.O.U. camp-out in September, 1953, ten birds were present on Lake Barrine.

Order Charadriiformes: Family Charadriidae. Red-kneed Dotterel **Erythrogonys cinctus.** Small numbers have been recorded at Mt. St. John on several occasions during the summer months.

Family Scolopacidae. Little Whimbrel, **Mesoscolapax minutus.** This bird does not appear to be common but is seen at Townsville. I have noticed only one or two birds at a time.

Black-tailed Godwit, **Limosa**

limosa. Though a rare bird, it has appeared near Townsville in flocks of 20 to 30. One such flock remained on the Common for a few months in the summer of 1947-48. In January, 1951, a similar group stayed for two days only, and in September, 1952, Mr. Roy Wheeler (R.A.O.U.) reported 33 birds at Mt. St. John. It was also reported at Cairns by R.A.O.U. members in September, 1953.

Order Passeriformes: Family Streperidae. Grey Butcher Bird, **Cracticus torquatus.** Although reference books quote Central Queensland as its northern margin, the Grey Butcher-bird was recorded in the Cardwell district in 1917 by A. J. Campbell and H. J. Barnard, who found it breeding in the adjacent tableland (Emu Vol. 17 Part 1). P. A. Bourke and the late A. F. Austin reported it as plentiful in 1944 on the Atherton Tablelands in open forest, though rarely seen round settlements (Emu Vol. 47 Part 2). Normally, it is not seen in Townsville, but it was in considerable numbers during the winter months of 1948 and of 1951. I heard several reports of its attacks on cage birds.

Plea For Retention Of Vernacular Name Echidna

By H. FLECKER, F.R.G.S.A., Cairns

The name **Echidna aculeata** was bestowed in 1792 by Shaw and Nodder upon a species of one of the only two genera of surviving monotremes, and this creature was known for very many years as such amongst zoologists and scientists generally, and the popular vernacular name **echidna** was accepted in most cases. A Tasmanian species, **Echidna setosa,** was described by Geoffrey in 1803. The word **Echidna** in Greek means viper, but it is difficult to understand why this animal should be associated with this serpent. Only in comparatively recent years was it recognised by zoologists that the generic name, **Echidna,** is quite untenable according to the rules laid down for biological nomenclature, because the same name had previously been given to a genus of eels, hence the name of the monotreme was changed to that given by Illiger in 1811, namely **Tachyglossus,** meaning quick tongue, referring to the rapid movements by which the tongue is operated, and rightly so, zoologists now refer to the above species as **Tachyglossus aculeatus** and **T. setosus** respectively.

Alternative vernaculars were and are "Porcupine" and "Spiny Ant-eater." The name porcupine is thoroughly objectionable, and it properly belongs to another group of placental mammals, in no way related to the **echidna,** and few people, other than those who are not particularly interested in any sort of classification, will defend the retention or propriety of such a vernacular.

However, Troughton, in his "Furred Animals of Australia," has labelled it "Australian Spiny Ant-eater," and adds that the name Echidna "belongs to a well-known genus of eels and that it must therefore no longer be used for the spiny animal." This is all very well, but so does the name of Ant-eater belong to a much better known Order of Mammals in other parts of the world, the **Edentata,** and includes the **Myrmecophaga.** The name Spiny Ant-eater implies that it is an Ant-eater as known abroad and the further affix of Australian implies that it is an Australian example of one of these mammals, but no zoologist will, under any circumstances, place the echidna in any group even remotely connected with the **Edentata.**

When one considers the uni-

versally accepted vernacular name of Platypus in use since 1799 for our own peculiar **Ornithorrhynchus,** named in 1800, nobody would dare to suggest that this vernacular name should be changed because the same name has been adopted as the biological name for a genus of weevils, a kind of beetle. If Troughton were consistent he would urge that the name platypus be scrapped for the very same reason that he advocates dropping the name of **echidna!**

If, therefore, the name Platypus is accepted generally for the "Duckbill," there is no reason why the original name of **Echidna** should not find a similar acceptance. It is therefore urged that this name be permanently retained as a vernacular, and the term Ant-eater—whether qualified or not—being that of the foreign Edentata, be completely abandoned.

WILLIAM HOSMER, F.Z.S.

It is with great pleasure that it is learnt that Mr. Hosmer, a member of the N.Q. Naturalists' Club, has been elected, at a recent meeting of the Zoological Society, London, a Fellow of the Society.

North Queensland Naturalists' Club

Meets at School of Arts, Shields Street, Cairns, usually on Second Tuesday of month, at 8 p.m.

MEETINGS

12th January, 1954: Mr. W. Hosmer gave a talk on method of identifying venomous or non-venomous snakes by noting the number and arrangements of their respective labial plates, with chalk illustrations on blackboard. Attendance 20 members and several visitors. The Herpetological League was warmly commended for their fine exhibition of living reptiles, recently.

9th February, 1954: Decided to raise subscription of town members, adults £1 per annum, younger members, from 16 to 21 years, 12/6. Where two or more members of same family, second and other members to pay half subscription. Agreed to appoint Messrs. Blake and Hendry hon. members in recognition of transport facilities cheerfully supplied. Attendance 13 and several visitors.

9th March, 1954: Questions were answered: (a) How do orchids grow on dry bark? (b) Where do mites in cheese come from? (c) What is heavy water and how was it discovered? Attendance 16.

13th April, 1954: Collection of stone implements from Mr. T. J. Trembath, Bartle Frere. Collection of minerals from Mines Dept., Brisbane. Water snakes, alive, hatching from eggs **(Tropidonotus mairii).** Attendance 17 and several visitors.

NEW MEMBERS ELECTED

7th December, 1953: Mrs. W. G. Jensen, 78 McLeod St., Cairns; V. J. Lock (Junior), 162 Buchan St., Cairns.

12th January, 1954: A. J. Henschell, Freshwater; V. M. Reilly, 129 Grafton St., Cairns.

9th February, 1954: Miss A. E. Anthony, Police Station, Cairns; J. C. Gould, Cairns City Nursery, Edge Hill; Arthur Nilsson, Hambledon Mill Barracks, Hambledon; K. W. Hill, 19 Joan St., Bungalow; Barrie Chalker, Gillies Highway, Edmonton; W. D. Hipworth, 80 Buchanan St., Cairns.

9th March, 1954: Messrs Arthur Smith, E. M. Smith, both of 192 Pease St., Edge Hill; K. C. Whouley, Edmonton; J. E. Nevin, Criterion Hotel, Cairns.

14th April, 1954: Miss E. Chapman, 132 Buchan St., Cairns; J. E. Juniper (Junior), Earlville.

Sunday Australian Printery

The North Queensland Naturalist

The Journal and Magazine of the North Queensland Naturalists' Club
Established 1932

VOL. XXIII | **Cairns, 1st October, 1954** | **No. 109**

A Further Contribution On Dendrobium Elobatum, Rupp

Describing polymorphism in the species and two new flower forms.

By S. F. St. CLOUD, Cairns

This species was described by Rev. H. M. R. Rupp in Victorian Naturalist, Vol. 69, Jan., 1953. The type plant in the author's possession has since produced two further flower forms quite distinct from the type form. Subsequently, another plant produced two flower forms identical with the variants on the type plant.

Specific or varietal names cannot be recognised in connection with the persistent polymorphism of this remarkable species. It can only be said that the plants produce three distinct flower forms, with **Dendrobium elobatum** as the type form.

FLOWER FORM B.

Raceme 46 cm. long, 4 mm. diameter, stem dark brown, with about 24 flowers on pedicels 3 cm. long. Bracts, oblong acute. Flowers 3–4 cm. across. Sepals and petals greenish, heavily suffused with brown, conspicuous red-lilac veins, and pale green margins. Dorsal sepal 19 mm. long, 6 mm. wide, broad linear. Lateral sepals, 25 mm. long, obliquely falcate, obtuse. Petals spathulate, slightly longer than the sepals. Petals and sepals, undulate and twisted. Labellum, shorter than the sepals, lateral lobes broad, slightly contracted towards the middle, incurved, with fine lilac lines broadening out to brownish edges. Midlobe, oblong acute, deflexed, slightly undulate, with irregular red brown lines to greenish apex. Disc, prominent raised callus extending to two thirds of lamina or one-third middle lobe, 4 raised lilac ridges converging towards tip of callus, undulations towards point of convergence. Column about 15 mm. long, winged wings slightly higher than the anther. Head, wings and foot flecked with lilac. Stigma broad, urceolate. Rostellum, not prominent.

Specimen flower form B from type plant in Herbarium St. Cloud.

Dendrobium elobatum, Rupp
Scale graduated in centimetres

form. It differs in the lateral lobes of the labellum and in this segment, of 21 flowers produced by two plants, 4 specimens were without one lateral lobe. In all other respects, the flowers of both racemes were similar. In the central callus the difference is marked by the one prominent ridge and prominent margins to callus. Also, this flower has the unusual feature, for a North Queensland dendrobe of being reversed. The production of similar polymorphic flowers by two different plants is an indication of the fixed nature of this flower form, and as the type plant, D. elobatum, produced a raceme of these flowers, they are inseparably associated with that species.

In all cases, a complete raceme is composed exclusively of the one flower form also, the several flower forms develop at different periods of the year, so that only one flower form inflorescence is blooming at one time on the same plant. Individual flower forms are not confined to individual pseudobulbs of the one plant, and each flower form appears at different times from separate axils on the same pseudobulb.

Racemes of the three flower forms are quite distinct and easily recognised in the dried state. Evidence of past production of the three flower forms was on the flowered plants. The spent racemes were obviously consistent with the type form, a short slender specimen, 27 cm. long, 3mm. diameter, flower form B, a long, robust, many flowered raceme, 46 cm. long, 4 mm. diameter and flower form C, a short, few flowered raceme 22 cm. long, 4 mm. diameter. The plants themselves are the subject of an unusual diurnal colour variation. The upper part of the pseudobulb, and the cauline leaf bracts in particular, are heavily coloured with a deep lilac until about noon. This colour changes to grey brown for the remainder of each day. All plants are well grown and the host trees of the seven specimens were. Wormia alata (Dilleniaceae) and Eugenia tierneyana (Myrtaceae).

The type form, and flower form B have both produced normal, well filled seed capsules, flower form C has not been tested. All flower forms show evidence of being long lasting.

The known flowering periods are, type form, August, flower form B, June, and flowering form C, October. The emergence of new growth takes place in May and December.

The disposition and number of individual flower forms, which constitute the floral record of the type plant are as follows:—

The disposition and number of individual flower forms, which constitute the floral record of the type plant are as follows:—

1st (forward) pseudobulb, Flower form C, 1 raceme.
2nd ditto " B, 1 " .
3rd ditto " C, 1 " , type 1 raceme.
4th ditto " B, 2 " , 1 " .
5th ditto " B, 1 " , 1 " , C, 1 raceme
6th ditto " C, 1 " , 1 " .
7th ditto " C, 1 " , 1 " .

The points of emergence of racemes on the pseudobulbs were (totals):—
Apices, Type Forms, 2, Flower Form B, 2, Flower Forms C, 2.
First Nodes, ditto 0, " B, 2, Flower Form C, 3.
Second Nodes, Type Form, 3.

A. Type form after H. M. R. Rupp. A, Flower from front. B, from side. C, Labellum from front.

B. Flower from front, Labellum removed. B, Column, ovary and pedicel.

C. Flower from side, normal position (reversed). B, Column, ovary and pedicel. C, Flower from front. D, Flower from front, labellum removed. E, Labellum from front.

This flower shows remarkable variation from the type form, and in the undulate character of the segments, bears a superficial resemblance only to Dendrobium undulatum R.Br. Flowers were first produced in cultivation by the type plant of **D. elobatum** Rupp. in the author's possession, and witnessed by Dr. Flecker, of Cairns. Further flowers were subsequently grown on another plant, collected in the Cairns city area. All flowers on both plants were identical. I consider that the production of similar flowers by two separate plants from different areas in the one locality to be an indication that these polymorphic flowers are a fixed feature of **D. elobatum.**

FLOWER FORM C.

Raceme, 22 cm. long, 4 mm. diameter, stem light green, with about 11 flowers on pedicels 2 cm. long. Bracts, broad, acuminate, lilac.

Flowers reversed, 2-3 cm. across. Sepals and petals cream coloured with red-brown longitudinal lines. Dorsal sepal about 14 mm. long, 6 mm. wide, broad, acuminate. Lateral sepals 18 mm. long. Petals linear lanceolate, shorter than the sepals, slightly twisted at the base. Labellum as long as the petals, 15 mm. long, 8 mm. wide. Lateral lobes narrow, erect, veined and suffused with lilac. Middle lobe broad, acuminate. Disc, raised callus extending to half length of middle lobe, prominent raised margins with one prominent ridge dividing at two thirds length and re-uniting at apex. Spur, narrow, obtuse. Column, about 12 mm. long, winged, wings projecting about 1 mm. above the anther, foot flecked with lilac. Stigma urceolate. Rostellum prominent.

Specimen flower, flower form C from type plant in Herbarium St. Cloud.

The flowers were first recorded on the type plant of D. elobatum, and witnessed by Dr. Flecker and E. Gilmore, Esq., President of Cairns Orchid Society. They were subsequently produced by another plant. The flower has a strong affinity with the type

Each one of these new flower forms would ordinarily be ranked as distinct species and would be described as such by anyone unacquainted with the habit of these remarkable plants.

I believe **D. elobatum** to be an endemic species, confined to the Trinity Inlet area, and the clearing of land for settlement has destroyed all except a few specimens remaining on the outer fringe of what is now the City of Cairns.

I am indebted to Rev. H. M. R. Rupp for his advice and interest, and in particular to Mr. H. K. C. Mair, National Herbarium of N.S.W., Sydney, for his definition of the status of the flower forms referred to.

Lychas lappa sp.n.

A New Scorpion from North Queensland

By L. GLAUERT

Cephalothorax as long as the first and two-thirds of the second caudal segment, emarginate in front, slightly sinuous behind; closely covered with larger and smaller granules which are also present on the median depression; two short granular keels extending for a short distance in front of the ocular tubercle and merging into clusters of large granules which occupy most of the area between the lateral eyes and the median depression, the lateral central keels and the posterior median keels represented by rows of spaced granules.

Tergites closely covered with larger and smaller granules, largest of the pigmented areas; the first sinuous behind like the Cephalothorax. The rest almost straight, the second to the sixth with short keels, consisting of about four enlarged granules extending to the hind margin; the seventh with four long granular keels the external of which reach the finely granular hind margin, a faint short median keel is also present, lateral edges finely serrate.

Sternites, all except the last, smooth and shining with faintly serrate edges, the last dull with a few scattered granules and four finely serrate keels which extend to the hind margin, serrations on lateral edges more pronounced.

Tail short and stout, four times as long as the Cephalothorax, parallel sided, with fine, sparsely scattered granules and coarser granular keels on the first to fourth segments, the terminal granule enlarged, less so than in the female of **L. armatus**, first and second with ten keels, third with eight well defined keels and two indistinct ones, fifth segment as long as the first and second together, somewhat irregular, the keels on the left normal, those on the right represented by clustered granules closely scattered on the dorsal, lateral and ventral surfaces, but the median keel on the lower surface well developed.

Vesicle upper surface smooth and shining, the lower with a

The North Queensland Naturalist

The Journal and Magazine of the North Queensland Naturalists' Club
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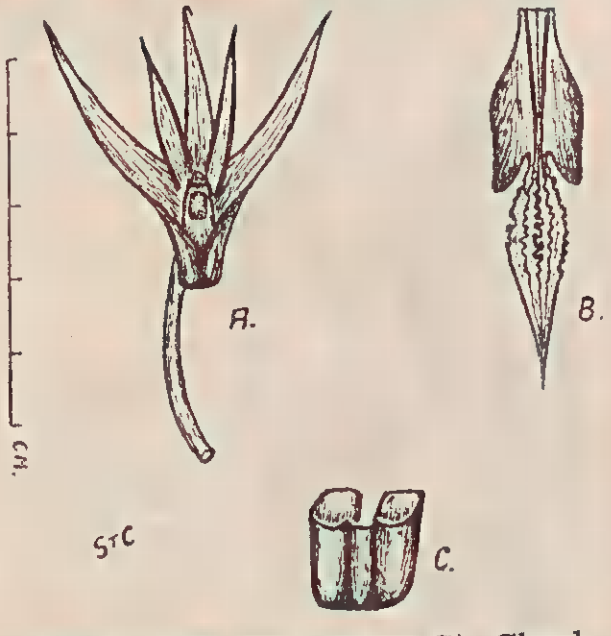
VOL. XXIII | Cairns, 1st January, 1955 | No. 110

Family Orchidaceae

A new species of **Dendrobium** from North Queensland
By S. F. St. CLOUD

Dendrobium baseyanum sp. nov. Planta in arboriubus epiphytica, rhizoma repens, caulae graciles circiter 13 to 15 cm. longae, pendentes et ramosae, albidis scariosis bracteis vestitae, intervalla longa inter nodas. Folii 60-70 cm. longi, 4 mm. dia. teretes. Racemi pauci, laterales circiter 10 cm. longi, robusti cum circiter 16 floribus in pedicellis 15 mm. longis. **Flores** albi. Perianthi segmenta non latiter expansa. Sepalum dorsale 12 mm longum latiter acuminatum; sepala lateralia paucim longiora cum columnae pede facienda calcar latum oblongum, supra dorsum 3 costas prominentes possedens. Petala multo breviora quam sepala latolinearia. Columna brevis cum angustis alis breviter terminans, anther oblongus. Columna alae antherque colore syringae suffusae. Labellum circiter 14 mm. longum, lobi laterales erecti, oblongi paucim plus quam dimidium longitudinis formantes colore syringae maculati. Lobus medius lato-lanceolatus cum marginibus crenatis ad duo tertias longitudinis ad apicem acutam paucim recurvatam, pallidoflavidam extendentibus. Discus marginibus prominentibus, albis ad basem unguis longi latiter extendentibus, proxime contrahentibus infra junctionem medii lobi, post hoc extendentibus et undulatis. Costa medialis a base, non prominans, quasi invisibilis a puncta contractionis marginium, post hoc conspicuosissima et undulata squamae angustae similia cum marginihus in apice convergens.



Dendrobium baseyanum St. Cloud (A) Flower from front, labellum removed (enlarged). B. Labellum flattened. C. Section through spur from rear (enlarged).

Plant epiphytic on trees, rhizome creeping, stems slender about 13-15 cm. long, pendulous and branching , covered with whitish scarious bracts, nodes widely spaced. Leaves 60-70 cm. long 4 mm. dia., terete. Racemes few, lateral, about 10 cm. long, robust, with about 16 flowers on pedicels 15 mm. long. Flowers white, perianth segments not widely expanded. Dorsal sepal 12 mm. long broad acuminate, lateral sepals slightly longer and forming with the column foot, a broad oblong spur having on the back three prominent ridges. Petals much shorter than the sepals, broad linear. Column short, with narrow wings ending shortly, stigma broad, anther oblong. Column, wings, and anther stained lilac. Labellum about 14 mm. long, lateral lobes erect, oblong forming slightly more than half the length, flecked with lilac. Mid lobe broad-lanceolate with crenulate margins to two thirds length and tapering to an acute apex, slightly recurved, pale yellow. Disc with prominent white margins extending widely at the base of the long claw, contracting closely at below the junction of the mid-lobe, then spreading and undulate. Central ridge from base not prominent, almost disappearing at the point of contraction of the margins, then re-appearing very prominently and undulate as

thin plates and converging with margins at apex.

Type in North Queensland Herbarium, Cairns. Habitat, Kings Plains, N.Q. Coll.—F. L. Basey, Cairns, in whose honour I have pleasure in naming this species.

This new species is a very interesting addition to this group, the differences between it and **D. teretifolium**, R. Br., and its var. **fasciculatum**. Rupp. are:—

(1). The very short floral segments,, perhaps the smallest yet recorded in this section.

(2). The unusual arrangement of the ridges of the disc.

(3). The flat spur with prominently marked back.

(4). The unusually long leaves. The flowers are not widely expanded, and the segments are semi-erect. These features are constant, and I consider that this fact, together with the points enumerated are sufficient warranty for specific rank.

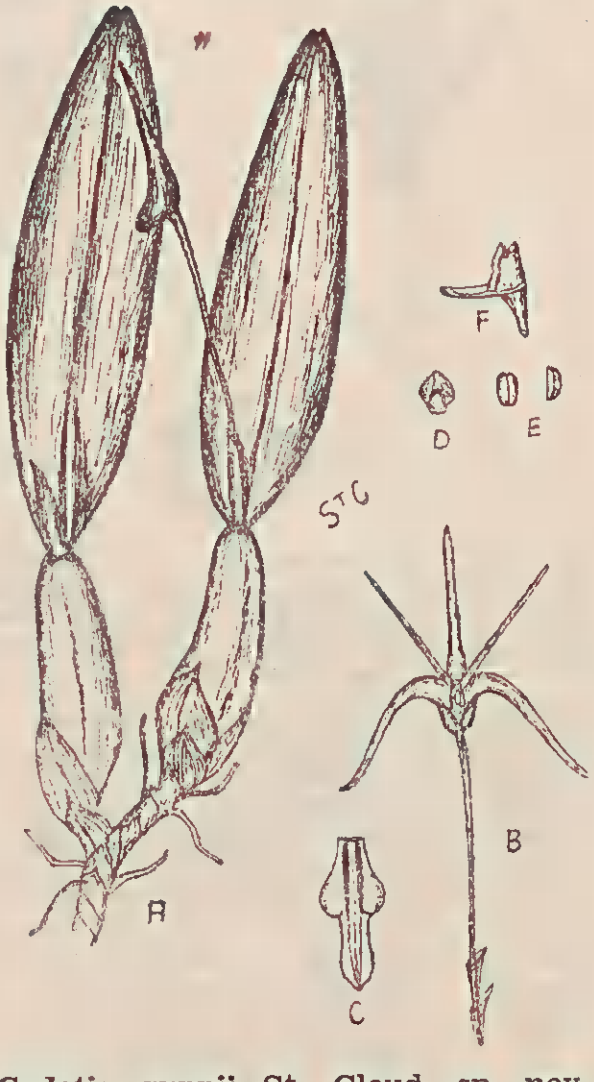
New Species Of Cadetia (Orchidaceae) From North Queensland

By S. F. St. CLOUD

Cadetia ruppii sp. nov.

Rhizoma repens, circa 3 mm. diam., squamis fulvis vestita, imbricatis, dilatatis base pseudobulborum. Pseudobulbi circa 4 cm. longi, 1 cm. diam, erecti, oblongiconici, leniter planati et flexi, glabri, flavo-virides. Folium terminale, lineatum-ovatum, circa 7 cm. longum, 2 cm. latum, tenuiter coriaceum emarginatum, aliquantum carinatum ad basem, flavoviride. Pedunculus circa 2 cm. longus, duabus bracteis albis vaginalibus circa 6 mm. longis, emergentibus ex tegmento vaginali in base folii. Flores solitarii, fugaci pedicellis gracilibus, circa 3 cm. longis pallido-flaves transparentes. Sepalum dorsale lineare, circa 2 cm. longum. Sepala lateralia curvata, latescentia ad bases. Columna longa, pes atque calcar obtusum circa 5 mm. longum. Petala linearia, aliquantum breviora quam sepala. Petala atque sepala incurvato-marginata. Labellum circa 1 cm. longum, aliquantum recurvatum, papillosum, aureo-flavidum. Lobi laterales cum lato unguine atque apice rotundato, leniter incurvati, rubro-marginati. Lobus medius oblongus, plusculus quam dimidium longitudinis, apice breviter acuta.

Discus prominentibus crassis marginibus ad junctionem medii lobi. Costa centralis non prominens, extendens ad totam longitudinem disci, conjuncta cum marginibus ad apicem. Columna circa 2 cm. longa, apicodentata, terminans sub antherem, alis rubo-notatis. Anther albus. Stigma angusta, oblonga, profundissima.



Cadetia ruppii St. Cloud, sp. nov. A. Plant, nat. size. B. Flower, labellum removed. C. Labellum, flattened. D. Anther from below. E. Pollen masses. F. Column, from side. (C. to F. enlarged).

Cadetia ruppii, sp. nov.

Rhizome creeping, about 3 mm. dia., covered with brownish scales, imbricate, extending to and enlarging round the bases of the pseudobulbs. Pseudobulbs about 4 cm. long, 1 cm. dia., erect, oblong conical, slightly flattened and curved, glabrous, yellow, green, Leaf terminal, linear ovate, about 7 cm. long, 2 cm. broad, thinly coriaceous emarginate, slightly keeled beneath, yellow green. Peduncle about 2 cm. long, with two whitish sheathing bracts about 6 mm. long, emerging from a sheathing envelope at the base of the leaf. Flowers solitary, fugacious, on a slender pedicel, about 3 cm. long, pale yellow, transparent. Dorsal sepal linear, about 2 cm. long, lateral sepals curved, broadening out to the bases, and forming with the long column foot, an obtuse spur about 5 mm. long. Petals linear, slightly shorter than the sepals, petals and sepals with incurved margins. Labellum about 1 cm. long, slightly recurved, papillose, golden yellow. Lateral lobes broadening out from the long claw to a rounded apex, slightly incurved with red margins. Mid lobe oblong, slightly more than half the length, with a shortly acute apex. Disc with prominent thick margins to the junction of the mid lobe, then tapering to thin ridges. Central ridge not prominent, extending to the full length of the disc, and uniting with the margins at the apex. Column about 2 mm. long, dentate on top, winged, ending below the anther, wings marked with red, anther white. Stigma narrow oblong, very deep.

Whitfield Range, Cairns (type), and Kuranda, N.Q., collected by S. F. St. Cloud, September, 1954. Type in North Queensland Herbarium.

I have pleasure in naming this beautiful species in honour of Rev. H. M. R. Rupp whose valuable assistance and advice has been so generously given to students of North Queensland Orchidaceae.

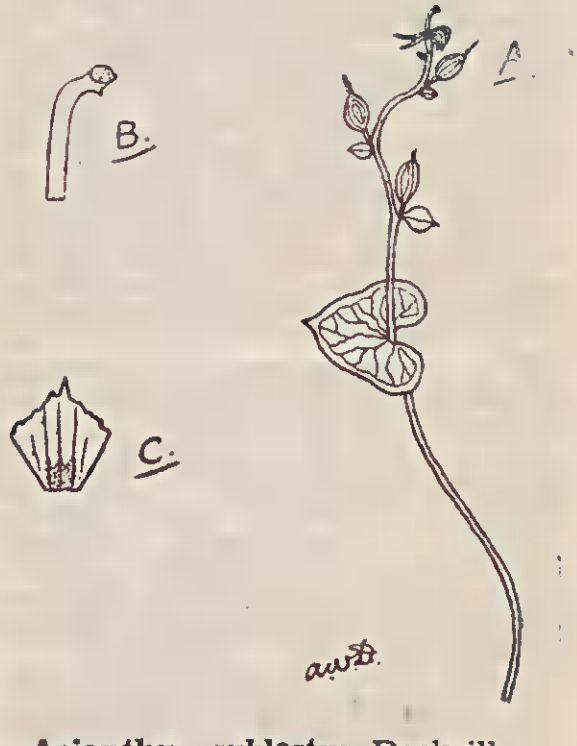
Two New Terrestrial Orchids From The Ravenshoe District

By A. W. DOCKERILL

1. **Acianthus sublestus** sp. nov.

Planta 5-12 cm. alta. Folium cordiforme, apiculatum. Flores 2-7, laxe dispositi; pedicelli breves; bracteae ovatae-acuminatae, ad 0.5 cm. usque longae. Segmenta fere aequalia, sepalo tamen dorsali paulo longiore, patentia, linear-lanceolata, c. 0.4 cm. longa ac 0.05 cm. lata. Labellum sessile, trapeziforme, quoad texturam tenuissimum, c. 0.3 cm. longum itemque latum, decurvum in medio per 90°, marginibus anterioribus irregulariter denticulatis, apice acuto. Columna tenuis, ad 0.4 cm. longa; sine alis, exserta sicut in **A. exsertus** R.Br.

Plant 5-12 cm. high. Leaf cordate, apiculate. Flowers 2-7, small, in a loose raceme; pedicels short; bracts up to 0.5 cm. long, ovate-acuminate. Sepals and petals more or less equal in length, the dorsal sepal a little longer, linear-lanceolate, spreading, up to 0.4 cm. long and 0.05 cm. broad. Labellum sessile, trapeziform, texture very thin, about 0.3 cm. long and the same broad, decurved in the middle almost at right angles, anterior



Acianthus sublestus Dockrill, sp. nov.

A. Flowering plant. B. Column. C. Labellum flattened out. (B. and C. enlarged).

margins irregularly denticulate apex with a sharp point. Column slender, up to 0.4 cm. long, not winged, exserted (as in **A. exsertus** R.Br.) at right angles to the dorsal sepal.

Ravenshoe district, North Queensland, 16th April, 1954, in open forest. Leg. W. W. Abell and W. G. McPherson.

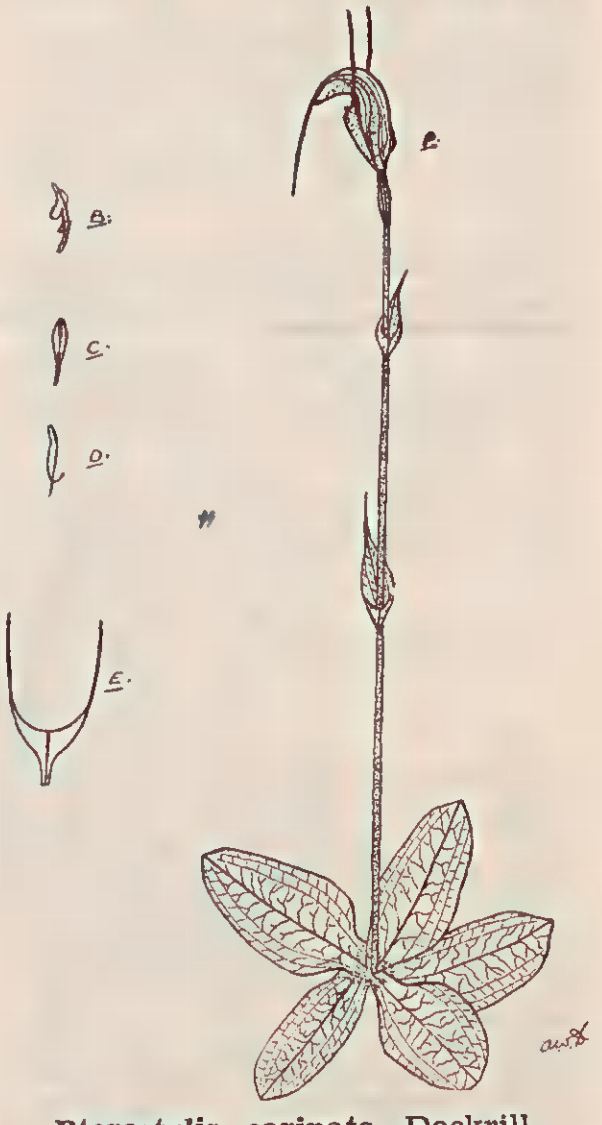
This species vaguely resembles **A. exsertus**, but the labellum, which in the latter species is clawed and oblong-lanceolate, readily distinguishes it. In most of the specimens examined, no more than one flower opened at a time, the lower flowers of the inflorescence maturing before the topmost flower opened. The ripe ovaries are very prominent.

The specific name refers to the small size of the flowers. Holotype lodged in the National Herbarium of N.S.W., No. 28475. The collectors stated that this species was quite common in the area.

2. **Pterostylis carinata** sp. nov.

Planta gracilis, usque ad 20 cm. alta. Folia 3-7, ovata vel oblonga, 2.5-5.0 cm. longa, ad caulis basim fere sessilia. Bracteae 2, acuminatae, interdum 2-5 cm. longae. Flos solitarius. Sepalum dorsale c. 3.5 cm. longum, erectum per tertiam partem, deinde decurvatum per fere 180°, sensim attenuatum in longam caudam filiformem. Sepala lateralia c. 3.3 cm. longa, connata per tertiam partem deinde ad filiformia super galeam extensa; sinus U-formans exhibens. Petala c. 1.8 cm. longa, falcata, abrupta acuta. Labellum c. 1.0 cm. longum, 0.25 cm. latum, oblanceolatum, obtusum; per sinum aliquantulum protrudens; ad alicem paulo flexum et in hae parte ornatum cum quasi-carina fusca quae ut linea media ad basim laminae protrahitur; appendix basalis loriformis, apex bifidus; unguiculus longus et gracilis. Columna curva, labello longior; alae pars superior linearis, pars inferior multo latior. Stigma in media columna, parcum et angustatum, tamen prominens.

Plant slender, up to 20 cm. high. Leaves similar to those of **Pt. ophioglossa** R. Br., 3-7 in a basal rosette, almost sessile, oval or oblong up to 5.0 cm. long. Bracts 2, up to 2.5 cm. long, acuminate, one in the middle of the stem, the other about 2.0 cm. below the ovary. Flower solitary. Dorsal sepal about 3.5 cm. long, erect for about one third of its length, then decurved through almost 180° and narrowing to a long filiform cauda. Lateral sepals about 3.3 cm. long, connate for about one third of their length then produced into long filiform caudae which reach high above the galea; sinus U-shaped. Petals about 1.8 cm. long, 0.25 cm. broad, barely protruding through the sinus, oblanceolate, obtuse, bent forward in the upper third which has a pronounced dark-coloured central keel continued as a line to the base of the lamina; basal appendage lorate, bifid at the apex; claw long and slender. Column is a little longer than the labellum, curved, upper wing-lobes linear, lower lobes much wider. Stigma in the middle



Pterostylis carinata Dockrill, sp. nov.
A. Flowering plant. B. Column from side. C. Labellum from top (flattened out). D. Labellum from side (normal position). E. Lateral sepals.

of the column, short and narrow but prominent.

Ravenshoe District, North Queensland, 16th April, 1954, in open forest. Leg. W. W. Abell and W. G. McPherson.

This species is perhaps most closely related to **Pt. depauperata** F.M. Bail., differing in its much larger size (both plant and flower), the leaves not having long petioles, the petals not having long filiform points, the different shape of the labellum (linear in **Pt. depauperata**) which is bent forward but not recurved, and the basal appendage merely bifid not strongly penicillate. It superficially resembles **Pt. decurva** Rogers, differing in the flowering plant having a basal rosette of leaves, the lateral sepals not forming a gibbous lip, and the shape of the labellum which in **Pt. decurva** is linear-oblong.

The specific name refers to the keel on the upper surface of the apical third of the labellum.

Holotype lodged in the Naticnal Herbarium of N.S.W., No. 28476.

Several large colonies of this species were seen by the collectors.

The finding of two new species on the one day, of genera rarely seen in the district, is a remarkable achievement by the collectors, who are to be heartily congratulated.

I am indebted to Mr. K. Mair, of the National Herbarium of N.S.W., for assistance with dissections of the two species, and to Rev. B. B. Lowery for reviewing the descriptions.

1 Surrey Ave., George's Hall, via Bankstown, N.S.W.

Notes On Egernia Whitei, E. Kintorei And E. Inornata (Scincidae)

By H. HIRSCHHORN and W. IRVINE, Sydney

On 19th June, 1954, the authors collected two specimens of **Egernia** together under the same rock at Waterfall, coastal New South Wales. These were thought to be **E. whitei** Lacepede and **E. kintorei** Stirling et Zietz. This fact prompted the authors to examine the specimens more closely along with another **E. whitei** collected on the same day at Waterfall, and three specimens of **E. kintorei** from the Warrambungal Mountains, inland N.S.W. **E. whitei** is supposed to be a strictly coastal form and **E. kintorei** a strictly inland form*

The authors used Mitchell's "Key to identification of species and subspecies of **Egernia.**" The results are recorded hereunder—(early steps of identification have been omitted).

A. Two specimens of **E. kintorei** from the Warrumbungal Mts., collected 17/4/1954.
A complete set of inrraoculars.
Half fifth, sixth and half seventh supralabials subocular.
Scales in 40 rows round body.

B. One specimen of **E. kintorei** from the Warrambungal Mts. collected 17/4/1954.
A complete series of infraoculars.
Half fifth, sixth and half seventh supralabials subocular.
Scales in 40 rows round body.

C. One specimen of **E. kintorei** (?) from Waterfall, collected 19/6/54.
A complete series of infraoculars.
Sixth and seventh supralabials subocular.
Scales in 42 rows round body.

D. One specimen of **E. whitei** from Waterfall, collected 19/6/1954.
A complete series of infraoculars.
Fifth and sixth supralabials subocular (rtght side).
Sixth and seventh supralabials subocular (left side).
Scales in 38 rows round body.

E. One specimen of **E. whitei** from Waterfall, collected 19/6/1954.
A complete series of infraoculars.
Sixth and seventh supralabials subocular (right side).
Seventh and eighth supralabials subocular (left side).
Scales in 38 rows round body.

Mitchell gives mid-body scale-counts for **E. whitei** as 32 to 40; for **E. kintorei** as 44 to 50 and for **E. inornata** Rosen (an inland form) as 36 to 42. He also states that the 5th and 6th supralabials are subocular in **E. whitei** and **E. inornata** and the 6th and 7th, or 7th and 8th in **E. kintorei.**

From this, it seems that **A.** and **B.** are intermediate between **E. whitei** and **E. kintorei.**

It can be seen from the results of the examination that there is a variation in the supralabials

which are subocular in specimens **D.** and **E.** Also **D.** and **C.** have a lower mid-body scale-count than recorded for **E. kintorei.** Because of this the authors suggest that there is no reason why, as there is a variation in the suboculars, the body-counts cannot be just a variation. The authors suggest that **E. kintorei** and **E. inornata** are only variations of **E. whitei** and would seem to be synonymous with it.

It is hoped that an examination of a larger series, at present being carried out by the authors, will yield more conclusive results.

The **Egernia whitei** listed above all belong to the type variety **E. whitei whitei.**

*MITCHELL, F. J., The Scincid Genera **Egernia** and **Tiliqua** (Lacertilia). Records of the South Australian Museum, Vol. IX, No 3, 1950.

Green Hill

By ROSALYN GLADYS WARREN

Prize Winning Essay for H. Flecker Natural History Medallion

Green Hill is situated in the midst of a ring of mountains and is about seven miles south of Cairns. However, whilst the mountains surrounding it are for the most part granite, Green Hill is of recent volcanic origin. It is shaped somewhat like a crescent moon with the horns sloping slightly inwards. No doubt originally it had the usual form of hollow cone, but the final eruption was violent enough to blow the whole of the eastern wall away. From the top a low ridge can be traced out to mark the spot where the wall formerly existed. The hill is not very high, no part being much over four hundred feet in height.

For the most part the hill is covered by a thin layer of red soil. Where water has washed the soil away one can see where the once flowing lava had solidified. One place where this is particularly noticeable is at the junction of two watercourses on the east side, almost in the centre of the old crater. Near this is a particularly interesting feature, an oval rock from which a cap about an inch thick has been split off. This split appears to be quite recent because while the outside is dark in colour and weathered, the line of fracture is much paler.

Noted geologists agree that the Mulgrave River probably flowed out to sea through Trinity Bay, but when Green Hill was pushed up, it was forced to alter its course southward. According to geologists the last eruption occurred about one thousand years ago.

A number of smaller streams converge on the east to form a larger stream flowing from the hill. This turns in a large circle southward and finally joins Simmon's Creek. The main run-off from the west is taken by a stream flowing southwest. On the northwest a small depression takes the water. A small stream to the north drains the northern side. All these streams flow only after rain, but for the remainder of the year, their course is marked by rocks and pebbles. There is no permanent watercourse on Green Hill.

Again unlike the mountains which surround it, this hill has no thick covering of rain forest, but is covered by grasses and only a few trees.

(Editor's note: Probably settlement for the growth of sugar cane has greatly altered its primitive condition).

Birds

Registered by JOHN R. T. SODERLAND
(Total: 51 species)

In most cases, I have omitted to mention the geographical features of the country. The book, "What Bird is That," by Neville Cayley, was used for guidance. The natural surroundings, as stated in the book, correspond with the type of country, where the birds were registered.

JOHN R. T. SODERLAND

Cairns,
8th April, 1954.

Dromaius novae-hollandiae:—Barkly Tablelands, Barkly Stock Route, at No. 5 bore, between Elliott and Anthony Lagoon.—One

specimen.—Later, several observed at various places.—3/9/1953 coming for a drink out of a shallow pool outside the water-pit.

Eupodotis australis:—Ten miles W. of Cloncurry. In pairs.—Flat, Mitchell grass country. Birds not particularly shy. 11/10/1953.

Megalornis rubicundus:—Georgina River, Q'land side,—Eight brolgas,—parading on the bank. 5/10/1953.

Casuarius casuarius:—One mile inland off the Mission Beach, opposite Dunk Island.—Single.—standing on a track in the deep forest. 28/10/1953.

Pelecanus conspicillatus:—Georgina River, near Camooweal, W. Q'land. In a large river-pool.—a flock.—also at Anthony Lagoon, Tewantin, S. Q'land. 5/10/1953.

Sericulus chrysocephalus:—Yabba Vale, Kandanga, Mary River.—In pairs.—In the cornfield. 18/1/1954. S. Q'land.

Chalcophaps chrysochlora:—Green Island, Barrier Reef, Feeding on the ground.—a pair.—24/3/1954.

Sphecotheres vieilloti:— Yabba Vale, Kandanga, Mary Valley. Several in the hooppines around the farm. S. Q'land. 10/1/1954.

Psophodes olivaceus:—Yabba Vale, Kandanga, Mary Valley, S. Q'land. In pairs—scrub undergrowth—18/1/54.

Cracticus nigrogularis:—Katherine River Country, N.T. in pairs, August 1953.

Grallina cyanoleuca:—Darwin N.T. and elsewhere. 1953.

Coracina novae-hollandiae:—Coppermine Creek, outside Cloncurry—flock—11/10/1953.

Dacelo gigas:—Palm Cove, Cairns, N. Q'land in pairs—3/11/53.

Dacelo leachi:—Pentland, Central Q'land.—in pairs—21/10/1953.

Edoliisoma tenuirostre:—Outside Hughenden, open forest—nest some 30 feet off the ground, with three young ones—18/10/1953.

Myiagra cyanoleuca:— Balfe's Creek, Q'land—in pairs—22/10/53.

Merops ornatus:—Coppermine Creek, outside Cloncurry—In flocks—11/10/1953.

Entomyzon cyanotis:—Outside Hughenden, open forest—18/10/1953.

Myzomela obscura:— Mataranka N.T.—open forest—in flocks August 1953.

Malurus lamberti:—Yabba Vale, Kandanga, Mary Valley—in pairs—22/12/1953.

Malurus assimilis:—Nonda Q'land—in bushes near waterpit—in pairs—12/10/1953.

Malurus melanocephalus:—Female Yabba Vale, Kandanga, Mary Valley—in lantana scrub—22/12/1953. Male—ditto—24/12/1953.

Steganopleura bichenovii:—Yabba Vale, Kandanga, Mary Valley—in flocks—hillside scrub. 22/12/53.

Steganopleura annulosa:—Barkly Tablelands, N.T. Water bores. 3/9/1953.

Taeniopygia castanotis:—Barkly Tableland, N.T.—Great flocks—Bores—3/9/1953.

Kakatoe galerita:—Katherine River N.T.—a pair—mating. Watched the birds an hour before sunset. One was sitting on a fallen tree trunk above the water, while the other was having a drink. August 1953.

Kakatoe roseicapilla:—Barkly Tableland, N.T. Stock Route, on the banks of a pool outside a bore—Hundreds strutting on the banks, together with hundreds of flock pigeons. Sept. 1953.

Kakatoe sanguinea:—Katherine River, N.T.—in flocks. August 1953.

Trichoglossus chlorolepidotus:—Yabba Vale, Kandanga, Mary Valley—in flocks—26/1/1954.

Trichoglossus rubritorquis:—Katherine River, N.T.—in flocks—August, 1954.

Myzantha melanocephala:—Cairns November, 1953.

Geopelia placida:—Yabba Vale, Kandanga, Mary Valley, Q'land—small flocks—19/12/53.

Geopelia cuneata:—Cairns, 2/11/1953.

Geopelia humeralis:— Whitfield Creek, 10 miles off Cardwell, Q'land—in flocks—26/10/53.

Histriophaps histrionica:—Barkly Tablelands, in flocks of hundreds, Barkly Stock Route, around the bores—arriving for drinks about two hours before sunset. September, 1953.

Meliphaga macleayana:— Outside Hughenden—a small flock—18/10 1953.

Meliphaga chrysops:—Outside Hughenden—in flocks—18/10/53.

Falco hypoleucus:—Nonda, Q'land—near waterpit—12/10/1953.

Baza subcristata:—Nonda, Q'land—in pairs—12/10/1953.

Hamirostra melanosterna:—Dunmara, N.T.—single—August 1953.

Lophoictinia isura:—Barkly Table-

lands, N.T.—Nonda, Q'land—in pairs—August, 1953,—12/10/1953.

Uroaetus audax:— Barkly Table lands, N.T. Some 500 yards off the black soil Route, in the Mitchell grass—walking through the grass, took to wings, some 40 yards away. Seemed to me the eagle was wounded. Between No. 3 and No. 2 bore. August 1953.

Gelochelidon nilotica:— Georgina River, near Camooweal, Q'land. In flocks—on the bank—5/10/53.

Egretta garzetta:—Georgina River, near Camooweal, Q'land—in pairs—5/10/1953.

Egretta intermedia:—Anthony Lagoon—Barkly—in flocks—September, 1953.

Egretta alba:—Nonda waterpit, Q'land—in pairs—12/10/1953.

Phalacrocorax ater:— Georgina River, near Camooweal, Q'land. singly—6/10/1953.

Phalacrocorax varius:— Nonda waterpit, Q'land—singly—12/10/1953.

Microcarbo melanoleucus:—Alexandria Station, N.T.—singly 18/9/53.

Centropus phasianinus:— Edge Hill, Cairns—in pairs—14/11/53 —in pairs Yabba Vale, Kandanga, Mary Valley, 12/1/1954.

Diomedea melanophris:— Off South Solitary Island, outside Coffs Harbour, N.S.W.—singly—December, 1951.

North Queensland Naturalists' Club

Meets at School of Arts, Shields Street, Cairns,, usually on Second Tuesday of month, at 8 p.m.

MEETINGS:

11th May, 1954. Description given of Dewey Decimal System of classifying library books. Attendance 16 members and several visitors.

8th June, 1954. Professor Wells, of Cornell University, Ithaca, N.Y. State gave an address on atolls of the Pacific, particularly Bikini and Eniwetok well illustrated by cinema films. Mr. Serventy spoke on the good work being done by the West Australian Naturalists' Club, and also by the West Australian Branch of the Gould League of Bird Lovers. Attendance 14 members and 23 visitors.

6th June, 1954. Outing to the southern bank of the lower reaches of the Barron River at Greenbanks.

13th. July, 1954. Agreed to forward natural history specimens to Perth and Broken Hill for exhibition at Natural History Shows. Attendance 13 members and several visitors.

10th. August, 1954. Col. I. M. Mackerras delivered an address of "Diseases Spread by Insects, Mites, viruses, etc." Experience has shown the value of research into the matter of life cycles of the smaller organisms causing disease. Attendance 12 and several visitors.

14th. September, 1954. Annual General Meeting. Following officers were elected: President, Mr. A. A. Read; Vice Presidents, Dr. H. Flecker, Messrs B. Cummings, R. Gorton, S. Dean, Ziegenfusz, Committee, Mrs. A. Read, J. C. Gould, J. Brophy; Hon. Sec., Mr. J. Wyer; Hon. Assist. Sec., D. Peiniger; Hon. Treas., Mrs. H. Smith; Hon. Librarians, Misses E. Chapman and M. Johnson; Organiser for Outings, A. Smith. Annual Report (published in last issue) was read by the President, and the Auditor reported satisfactory statement of the finance.

14th October, 1954. The H. Flecker Natural History Medallion was presented to Miss Rosalind Gladys Warren, and was for the best essay recording any feature of natural history personally observed by any writer in North Queensland under the age of twenty. The article appears in this issue.

NEW MEMBERS ELECTED

11th May, 1954: Mrs. Dorothy Barnes, Golding St., Barney Pt., Gladstone; John R. T. Soderland, Cairns; Kevin J. White, Forestry Office, Atherton.

13th July, 1954: J. D. Kelly, Mulgrave Mill, Gordonvale; Miss Margaret D. Johnson, 55 McLeod St., Cairns.

10th August, 1954: Miss Ethel Collas, 179 Esplanade, Cairns.

11th September, 1954: Capt. Arnold Mellor, Q.G.P.V. "Melbidir," Thursday I.

14th October, 1954: Henry Hirschhorn, 3 Alpha Rd., Willoughby, N.S.W.; Walter Arthur Lorking, 1 Rebecca St., Chullora, N.S.W.; William Irvine, 41 Farnell St., Gladesville, N.S.W.

Sunday Australian Printery

The North Queensland Naturalist

The Journal and Magazine of the North Queensland Naturalists' Club
Established 1932

VOL. XXIII | **Cairns, 1st May, 1955** | **No. 111**

Family Orchidaceae

A NEW SPECIES OF ERIA FROM NORTH QUEENSLAND

By S. F. St. CLOUD

Eria irukandjiana sp. nov.

Rhizoma breviter repens, pseudobulbi conici obliquiter circa alti 1 cm. atque circa 1 cm. dia. a base, ad collum breve extendentes, paulo rugosi, viridescentes, cum squamis brunnescentibus tecti. Radices tenues, brunnescentes. Folii 2, terminales, erecti paulo recurvati, linear-obtusi inequaliter emarginati contrahentes ad petiolem angustam a base profunditer canaliculati, circa 5-6 cm. longi, 1 cm. lati, 3-4 mm. crassi, infra rotundi, supra plani, succulentes, virides, tenuiter canaliculati supra infraque in medio. Racemi a base

Key to Plate—

A. Plant

B. Flower from front, segments expanded, greatly enlarged.

folii longi, brunnescentes cum circa 10 floribus in pedicillibus longis 2 cm. Pedicillis ovariumque tomentosum, facies exteriores sepalium cum capillis albescentibus tectae. Flores minuti, sepalum dorsale circa 2 mm. longum, latum 1 mm. acuti cum marginibus incurvatis et notationibus rubrescentibus; sepalia lateralia similia, extendentia a base lato et cum pede columnae fingentia calcar breviter latum. Petala paulo breviora quam sepalia, linearoblonga, obtusa, translucentia cum veno centrale rufescente. Labellum sine disco squamaque, 1 mm. alta, in medio alba paulo canaliculatum recurvatumque, sessile in pede columnae, translucente. Columna oblonga, circa latum ovatum, completum paulo gonflata, alae non prominentes breves. Stigma non profunditer inserta. Anthera alba cum incisura centrale profunda. Corpora pollinium piriformia, flava fortia.

Rhizome shortly creeping, pseudo-bulbs obliquely conical, about 1 cm. high and about 1 cm. dia. at the base, tapering to a short neck, slightly wrinkled, greenish, covered with brownish scales. Roots slender, brownish. Leaves 2, terminal, erect slightly recurved, linear obtuse unequally emarginate, contracting almost to a narrow, deeply channelled petiole at the base, about 5-6 cm. long, 1 cm. wide, 3-4 mm. thick, rounded beneath, flattened above, succulent and dull green, lightly and centrally channelled above and beneath. Raceme from the base of the leaf, about 1 cm. long with about 10 flowers on pedicels 2 mm. long. Bracts oblong acute, brownish, about 2 mm. long. Pedicel and ovary tomentose, outer surfaces of sepals covered with whitish hairs. Flowers minute; dorsal sepal about 2 mm. long, 1 mm. broad, acute, with incurved margins and reddish markings; lateral sepals similar, tapering from a broad base, and forming with the column foot, a short, broad spur. Petals slightly shorter than the sepals, linear oblong, obtuse, translucent, with reddish central vein. Labellum without disc or plate, broad ovate, entire, lightly channelled and recurved, sessile on the column foot, translucent. Column oblong, about 1 mm. high, white, slightly swollen about the middle, wings not prominent, short. Stigma not deeply sunken. Anther white, with deep central cleft. Pollen masses pyriform, bright yellow.

Growing on **Casuarina** species, 1500 ft., Nesbit Range, Trinity Bay, North Q'land. Leg. S. F. St. Cloud, Nov., 1954, flowered Dec., 1954. Type in North Queensland Herbarium, Cairns.

This latest addition to the genus is the smallest yet recorded. The diminutive pseudo-bulb, together with the thick, succulent leaves and minute flowers, makes it readily distinguishable from other members of the genus. All flowers fruit in 5-7 days and suggest self pollination. The host trees, altitude, and dry, open forest country with full sunlight, make an unusual habitat for an Eria species. I have named this new species after one of the aboriginal tribes that inhabited the area which includes the Nesbit Range.

New Species Of Dendrobium (Orchidaceae) From North Queensland

By S. F. St. CLOUD

Dendrobium foederatum sp. nov. Rhizoma in cortice arborium repens caulae pendulosae, interdum ramosae, 15-20 cm. longae, cum squamis vaginalibus albidis tectae. Radices robustae glabrae albae. Folii teretes non sulcati, leviter curvati, subacuti, pallidoviridis circa 5 cm. longi atque 5 mm. diam. Racemi de propinquitate foliorum basium, 2-3 cm. longi; bracteae minutissimae. Flores albi, segmenta non late expansa; sepalum dorsale lineare, acutum, 9-10 mm. longum, 5 nervatum. Sepalia lateralia paulo

longiora, cum columnae pede calcar prominens paulo curvatum circa 4 mm. longum fingentia. Petalia linearia lanceolata, paulolo breviora quam sepalia, 3 nervata. Labellum trilobatum circa 9 mm. longum atque trans lobos laterales planatos 4 mm. latum. Lobi laterales incurvati, acuti ad 1.5 mm. longi; lobus medius circa 5 mm. longus, latus, lanceolatus paulo decurvatus cum marginibus crenulatis. Lamina cum 3 costis similibus aequalibus ad infra coniunctionem lobi medii, tunc tenuiter ordineque undulata, ad apicem se contrahens abeundaque. Loborum margines cum notationibus rubropurpureis. Columna circa 2 mm. alta, crassa cum alis brevibus prominentibus, in apicibus inequiter bidentatis; columna alae pesque rubropurpureae maculosae. Stigma lata oblonga, profunde mersa. Anther teres, supra planatus, cum crista centrale, viridoflava. Rostellum non prominens.

A. Portion of plant.
B. Labellum flattened.
C. Flower from front.

Dendrobium foederatum sp. nov.

Rhizome creeping on the bark of trees, stems pendulous, sometimes branching, 15-20 cm. long, covered with whitish sheathing scales. Roots robust, glabrous, white. Leaves terete, not furrowed, slightly curved, sub-acute, light green, about 5 cm. long, and 5 mm. diameter. Racemes from near the bases of the leaves, 2-3 cm. long, bracts very minute. Flowers white, segments not widely expanded, dorsal sepal linear, acute, 9-10 mm. long, 5 nerved. Lateral sepals slightly longer, forming with the column foot, a prominent, lightly curved spur, about 4 mm. long. Petals linear lanceolate, slightly shorter than the sepals, 3 nerved. Labellum trilobate, about 9 mm. long and 4 mm. broad across the flattened out lateral lobes. Lateral lobes incurved, acute, up to 1.5 mm. long, mid lobe about 5 mm. long, broad-lanceolate slightly decurved with crenulate margins. Lamina with 3 equal parallel ridges to below the junction of the mid-lobe, then finely and regularly undulate, tapering and disappearing towards apex. Margins of lobes with reddish purple markings. Column about 2 mm. high, stout, with short, prominent wings, unequally bidentate at their apices, column, wings, and foot flecked with reddish purple. Stigma broad, oblong, deeply sunken. Anther rounded, flattened on top, with central ridge, greenish yellow. Rostellum not prominent.

Type in North Queensland Herbarium, Cairns.

Growing on **Heritiera littoralis** in mangrove swamp, Aeroglen, near Cairns, leg. J. Dyson-Holland, September, 1954, flowering in cultivation, October 1954 to January 1955.

This species has an affinity with **D. rigidum** R. Br., and **D. teretifolium** R. Br. With the former species it is similar in method of growth, and has the same curious and fixed habit of growing only on mangrove trees. In the flower the similarity is in the sepals and petals, but they are longer and more slender, and the sepals are 5 nerved, whereas in **D. rigidum** they are 3 nerved. In the labellum, the claw is consistently longer, the lateral lobes wider, and the mid-lobe is lanceolate. In the disc the 3 ridges are more prominent,

and not widely separated.

It is readily distinguished from any variety of **D. teretifolium** by its much shorter leaves, smaller flowers, which have shorter segments, and the consistently long spur. An important difference is in the mid-lobe of the labellum, which in **D. teretifolium** is acuminate, and usually filiform at the apex, and much decurved or revolute, whereas in this species it is broad lanceolate, only slightly decurved, and by no means filiform at the apex.

Mr. Dyson-Holland deserves great credit for recognising this species in its mangrove swamp habitat. On a subsequent visit to the type locality with the author, he collected more flowering plants, which correspond to the type specimen. I venture the opinion that the evidence is against a natural hybrid of the 2 species mentioned. There are no known host trees in North Queensland that the varieties of **D. teretifolium** will not flourish on, and if the influence of this strong species were in evidence, it would be shown by the departure of these plants from their mangrove host. The area is surrounded by an abundance of favourable host trees, and all search has failed to discover one of this species amongst them. The plants reproduce themselves, and the flowers are unusually constant.

The specific name is in allusion to the apparent link between **D. teretifolium** and **D. rigidum**, which is shown in the flowers.

I am indebted to Mr. A. W. Dockrill, Georges Hall, N.S.W., whose helpful suggestions have been of great assistance.

Sunbirds At Home

By CLEO SEATON

On 1st May, 1954, a pair of sunbirds (Yellow Breasted Sunbird, **Cyrtostomus frenatus**) started to build their nest, finishing it in stages. The foundation consisted of a piece of electrician's hooked flex hanging from the eaves of our house. To this was fastened a loop greatly strengthened with plenty of spiders' cobweb, mixed with pieces of bark and measuring when straightened out some two inches in length. From this loop, a tapering stem some eight inches long widening to three inches in circumference was avifactured. Beneath this it expanded into the shape of a hollow pear about six inches deep and nine inches in circumference at the base, leaving an aperture at the side of two inches deep and an inch and a half across. From the lowermost part was suspended an eight inch tapering pennant, quite distinct from the nesting chamber some three inches across at the base of the nest and strongly attached by an abundance of cobwebs. The whole suspended structure is twenty two inches from the point of attachment to the lowermost tip.

The next performance was the making of a small hood projecting from the top of the doorway. This is built with stiff bark fibre completely changing the appearance of the front view of the nest, although the back and sides still remained pear shaped. Having completed this, the birds left the nest and confined their daily visits to the garden.

Three months passed by when I had almost given up hope of ever seeing the nest being put to use. After hearing the cock calling from the clothes line, the hen put in several appearances in answer to his calls, but she made no attempt to look over the nest. Then the procedure was reversed, the hen calling to her spouse. Upon his arrival, she would examine the nest, then join him on the clothes line, and together they would sing a duet, a beautiful burst of music gradually fading to a whisper. During these duets, I had the opportunity of seeing their tongues, for after their song, the tongue was thrust out like a silver thread of cotton an inch in length.

At last the month of October had arrived and work had started in earnest. Poking wattle flowers, dried leaves and small moulted feathers all over the exterior of the nest, including

the stem and pennant, at the same time fraying out the edge of the hood, they proceeded to line the nest with small feathers and soft downy silken floss gathered from the dehiscing carpels of **Mallotus ricinoides**, a euphorbiaceous shrub growing wild in the neighbourhood. This was worked up into a thick, downy mattress and spread over the bottom of the nest. This work was often carried on right through the heat of the day. For another week periodical visits and pokes were made at the nest.

At last she settled in the nest, flying off at frequent intervals, and so absorbed was she in her task of building the nest that she ignored the presence of all human society, although after she had begun to occupy the nest she became timid, flying away when anyone came to the back door, so it was decided to move the nest to the other side of the laundry. This was done very carefully, but the hood prevented peeping to see the eggs. When the lady returned, discovering the absence of the nest from its usual site, she hovered over this area before returning to the clothes line. The next flight was to the nest in the new position, but again she returned to the clothes line and decided to call her mate, who evidently recognised the urgency of the call and was soon alongside of her and was just as bewildered as she was. Eventually he decided to try the nest out and finding it in order he called to her. Rejoining his spouse, she finally flew back to the nest and entered, while he flew away across the gully, only to return in a short while when once again their duet resounded. Even after he had flown away again, she could be heard singing quietly to herself some lovely sweet music. All this took place on 20th November and all went well and the two chicks were hatched ten days later on 30th November. From my kitchen window I was enabled to note the behaviour which is the subject of these notes.

These birds show a striking eagerness to share things in common, even when not nesting. The discovery of a fresh flower or the turning on of the sprinkler will bring forth a constant call to the mate to share in the joy. For their benefit the garden spray is placed amongst the papaw and banana trees, where they bathe, slither, and fluff their feathers in the small droplets of water on the leaves. A similar performance is likewise carried out after a heavy dew, but I have never seen them drink or bathe in the bird baths.

With the aid of a small mirror I was enabled to see the young, featherless babes hatched on 30th November. They were about an inch and a half in length, with heads no larger than a pea, and were seen gasping for breath, their skin having the appearance of a piece of boiled bacon.

While the parent birds kept a close watch over the nest, they seldom entered it until late in the afternoon, when both took a share in feeding the youngsters. Mother settled down with them for the night while her spouse flew up into a tree. For several minutes they would call to each other. The same procedure was continued for the next three days.

On 3rd December, the first feeble, but musical squawk was heard, when feeding became more frequent and the very proud parents brought another male and female to join in the special celebration upon an adjoining clothes line.

On 5th December, the beaks of the fledgelings appeared above the opening in the nest, after which the parents clung to the outside of the nest, thrusting their heads through the opening to feed their babes.

On 6th December, almost continuous feeding took place, both parents flying off and returning together to feed their young. Dad always settled on the clothesline while Mum went direct to the nest, after which the other took his turn. To celebrate this performance both put on an acrobatic performance while they sang together lustily, thus providing a beautiful display.

During the frequent feedings, the parents always removed dried pellets and later, as the birds grew somewhat, a small white feather from within. They never merely dropped these pellets or

feathers but flew away with them in their beaks.

By 7th December when they were a week old, the heads of the young were fully covered with feathers, the chin still being a bit raw and the eyes no longer so prominent.

The above procedure continued for another week until the evening of 15th December, when both parents entered the nest, father taking the bottom position, both heads being seen through the doorway during the lusty chorus of harmonious squawks from the fledgelings.

On the 16th, after the young had been fed, with much chatter both parents clung to the outside of the nest, mother caressing the young with her beak along their chests. Father now entered the nest, passing beneath and pushing one of the young ones to the aperture. Mother seemed to balance on the edge with her tail inside. She then descended with the chick into the open, flying straight to the fence thirty feet away, giving the impression that the youngster had its first lift on its mother's back. Father now joined them when a full half hour was spent in establishing confidence in the chick, at the same time encouraging it to move down to a bigonia in flower where it was sheltered. Flying back to the nest, the same procedure was repeated until all four were settled in the creeper with lots of chattering and demonstrations, at the same time keeping all other birds away from the creeper.

Both chicks were now plump, with thick necks, the breast being of a light lemon yellow colour, greyish green above and with very little development of the tail.

By 11.30 a.m., at the age of sixteen days, both young birds were high up in a tree fully twenty yards away from the creeper, when a similar performance was undertaken by both parents to assist in their transport, one fledgeling at a time being given the appropriate instruction. During the afternoon they flew across the gully.

Now, on 10th January ,1955, when the young are six weeks old, I often see them. They are still plump with the lemon-tinted breast deepening in colour showing signs of small, dark, pin-like feathers on the throat. They soon learnt to bathe in the papaw leaves when the garden spray is turned on and are fairly tame around the garden. They still squawk and fascinate me a great deal.

Retraction Of A Species Of Orchidaceae (Acianthus sublestus)

By A. W. DOCKRILL

In the January number of this Journal (Vol. 23, No 110, Jan., 1955), the writer described, as a new species of orchid, **Acianthus sublestus.** This description was prepared from herbarium specimens (dried), as at the time, it was thought most unlikely that fresh specimens would be collected for a number of years, and the details of the floral structure were able to be worked out quite well. These details did not coincide with those of **Acianthus amplexicaulis** (F. M. Bail), Rolfe, Arch Rev. 11: 344 (1903) (Syn. **Microstylis amplexicaulis** F. M. Bail., Bot. Bull. 9: 18 (1891); **Listera amplexicaulis** (F M. Bail.) F. M. Bail., Qld. Flora, 5: 1560 (1902) given by Bailey l.c., but since January, I have had access to the unpublished, original plate of this latter species by R. D. Fitzgerald in the Mitchell Library, N.S.W., and to another unpublished plate by the Rev. H. M. R. Rupp (who pointed out the similarity of the two species) and I have received a number of excellent, though small, freshly collected (April, 1955) specimens, preserved in formalin solution, from W. W and T. Abell, S. F. St. Cloud and J. H. Wilkie from the Ravenshoe-Atherton district, and I now believe **A. sublestus** and **A. amplexicaulis** to be conspecific.

Bailey could have had no idea

of the extreme variability of his species when he prepared his description, and a few notes on these variations might not be amiss. None of the 1954 specimens (over 20) had the peculiar lobed leaves stressed by Bailey, but three of the twelve 1955 specimens had them. The labella of the 1955 specimens varied in shape from lanceolate to trapeziform to oblong to even being cut off quite straight in front but prominently dentate; all had a prominent central apical point; the dentation, irregular and varying from none to five prominent teeth on either side of the apical point

It would appear from the specimens examined, that, as the flower is opening, the labellum is quite horizontal for its entire length and the margins upturned so that the segments appear almost cymbiform (this stage is illustrated by Fitgzerald l.c.), but as maturity is reached, the margins tend to become slightly decurved and the whole labellum decurved about the middle for approximately ninety degrees.

The recording of this rare South Queensland species from the Atherton Tableland is of particular interest and stimulates speculation on just what other temperate terrestial orchids might yet be collected on this Tableland.

Book Review

28. — THE COMMERCIAL FISHES AND FISHERIES OF QUEENSLAND. By J. Douglas Ogilby, 121 pp., 123 photographic figures, revised and illustrated by Tom C. Marshall, Fisheries Branch, Dept. of Harbours and Marine, Brisbane. Originally published by Queensland Govt. in 1916, it has been out of print for some years. Written in narrative style, devoid of technicalities, it is without headings or chapters, the index alone giving the clue to the location of its contents. It should find favour amongst Queensland fishermen, professional as well as amateur.

Further Notes On Ooyurkas

By H. FLECKER

The accompanying photograph of an ooyurka represents that described as no. 13 in the issue of no. 108 of this publication, issued May, 1954.

No. 16 of the same series was ploughed up at Liverpool Creek, Warrabullen, on a farm, collected by J. Courtney.

North Queensland Naturalists' Club

Meets at School of Arts, Shields Street, Cairns, usually on Second Tuesday of month, at 8 p.m.

MEETINGS

9th November, 1954: Amongst exhibits were Purple-crowned Pigeon, Large Vase - shaped Sponge, 19 inches high. Attendance 11.

14th December, 1954: Announcement of death of one of foundation members, Mr. A. J. Moran. Mrs. Moran donated a collection of about 50 books on Natural History to the Club library. Mr. S. Dean was elected Honorary Librarian. It was resolved to display a prominent sign in the School of Arts notifying meetings of the club. Mr. St. Cloud exhibited specimens of new species of **Cadetia ruppii** St. Cloud and **Dendrobium baseyanum** St. Cloud. Attendance 12 members and 1 visitor.

11th January, 1955: Exhibits included **Eria irukandjiana** St. Cloud sp. nov. A discussion on the Common Myna, **Acridotheres tristis** was carried out. Attendance 9 members and 1 visitor.

8th February, 1955: Lecturettes by Dr. H. Flecker on (a) Fatal stings from jelly-fish in North Queensland, and; (b) Irukandji sting, probably from jelly fish. Short lecture by Mr. C. Coleman was given on Moths and Butterflies. Owing to extremely inclement weather and to holidays, attendance reduced to 3 members and 4 visitors.

8th March, 1955: Half gross of badges ordered and to be made available to club members. Reference made by Mr. S. Dean and others to excellent services rendered to the club by the President, Mr. Alfred A. Read, for some years past. It was unanimously resolved that he be made an Honorary Life Member, a privilege never previously bestowed on any local member.

Mr. S. Dean read an article on the value of radiocarbon in determining the antiquity of botanical articles— such as charcoal associated with archaeological objects as the famous Keilor skull. Mr. Ziegenfusz reported the finding of an aboriginal kitchen midden at Blackfellow Creek. Attendance 8 members and 4 visitors.

NEW MEMBERS ELECTED

9th November, 1954: Mr. H. R. Schaller, Walsh St., Edge Hill.

14th December, 1954: Mr. C. R. N. Jackson, East Palmerston; Mr. Eric Elms, Stratford.

8th March, 1953: Mrs. G. A. Hunter, Glendore Hospital, Nash St., Gympie; Mr. Thomas C. Williamson, 24 Minnie St., Cairns; Herbert A. Williamson (Junior), 24 Minnie St., Cairns; Mr. J. W. Johnston, Balfe St., Cairns.

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